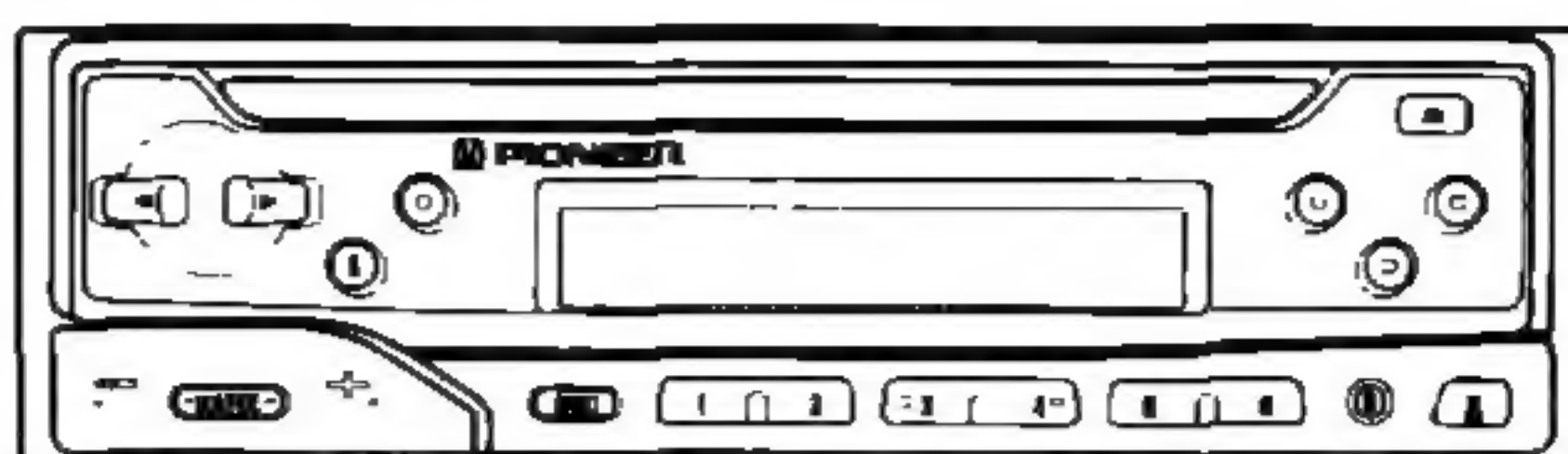


# Service Manual

**PIONEER®**  
The Art of Entertainment

DEH-435R/X1M/EW



ORDER NO.  
**CRT1967**

HIGH POWER CD PLAYER WITH RDS TUNER

# DEH-435R

**X1M/EW**

# DEH-434R

**X1M/EW**

# DEH-433R

**X1M/GR**

**COMPACT**  
**disc**  
**DIGITAL AUDIO**

- See the separate manual CX-597(CRT1829) for the CD mechanism description, disassembly and circuit description.
- The CD mechanism employed in this model is one of CX-597 series.

## CONTENTS

1. SAFETY INFORMATION .....	2	7. GENERAL INFORMATION .....	62
2. EXPLODED VIEWS AND PARTS LIST .....	3	7.1 PARTS .....	62
3. SCHEMATIC DIAGRAM .....	11	7.1.1 IC.....	62
4. PCB CONNECTION DIAGRAM .....	38	7.1.2 DISPLAY .....	70
5. ELECTRICAL PARTS LIST .....	48	7.2 DIAGNOSIS .....	71
6. ADJUSTMENT .....	56	7.2.1 DISASSEMBLY .....	71
		7.2.2 TEST MODE .....	72
		7.3 BLOCK DIAGRAM .....	74
		8. OPERATIONS AND SPECIFICATIONS.....	76

**PIONEER ELECTRONIC CORPORATION** 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan  
**PIONEER ELECTRONICS SERVICE INC.** P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.  
**PIONEER ELECTRONIC [EUROPE] N.V.** Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium  
**PIONEER ELECTRONICS ASIACENTRE PTE.LTD.** 501 Orchard Road, #10-00, Lane Crawford Place, Singapore 0923

© PIONEER ELECTRONIC CORPORATION 1997

K-FFD. JAN. 1997 Printed in Japan



## ● CD Player Service Precautions

1. For pickup unit(CXX1230) handling, please refer to "Disassembly"(CX-597 Service Manual CRT1829). During replacement, handling precautions shall be taken to prevent an electrostatic discharge(protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please checking the grating after changing the pickup unit(see page 59)

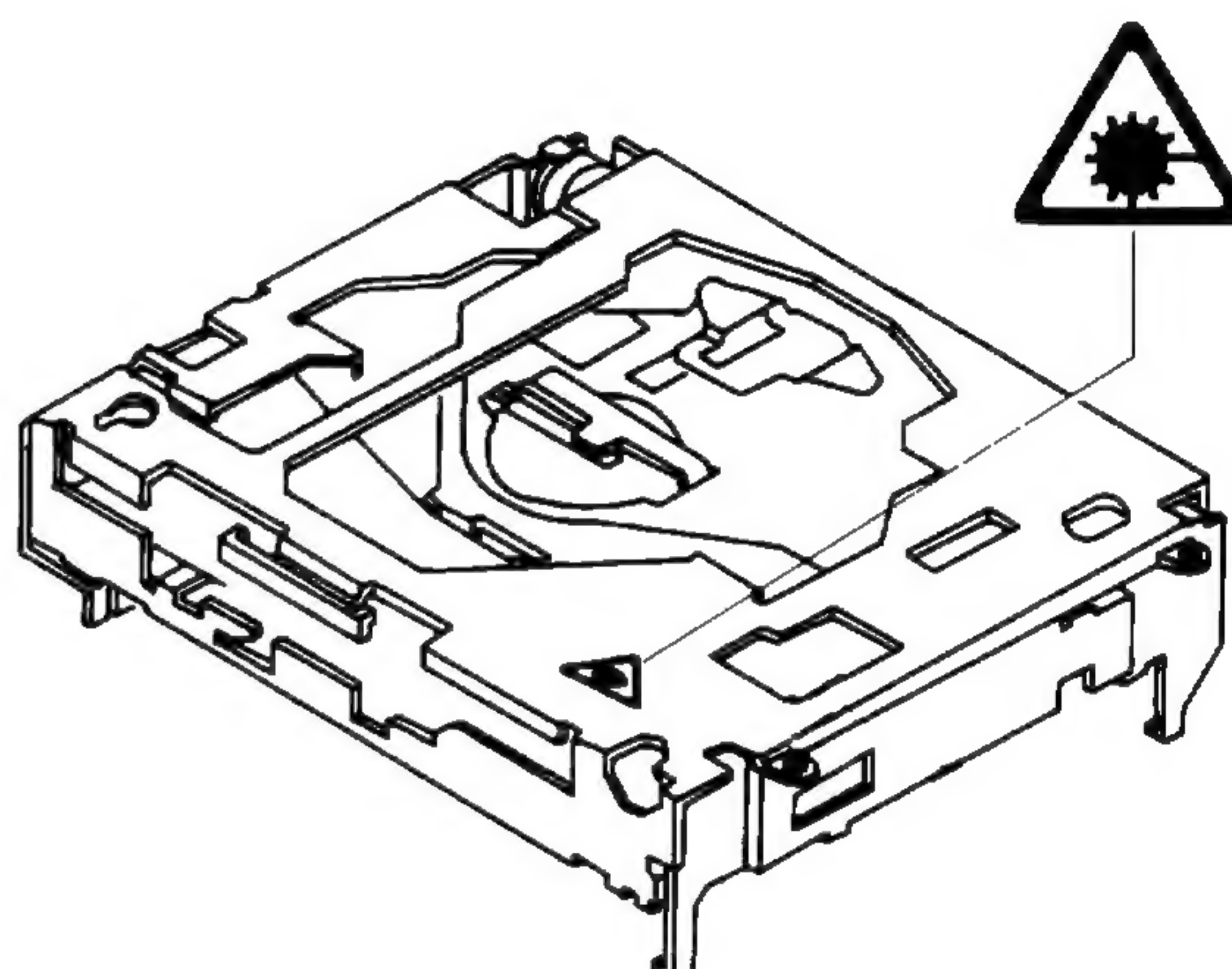
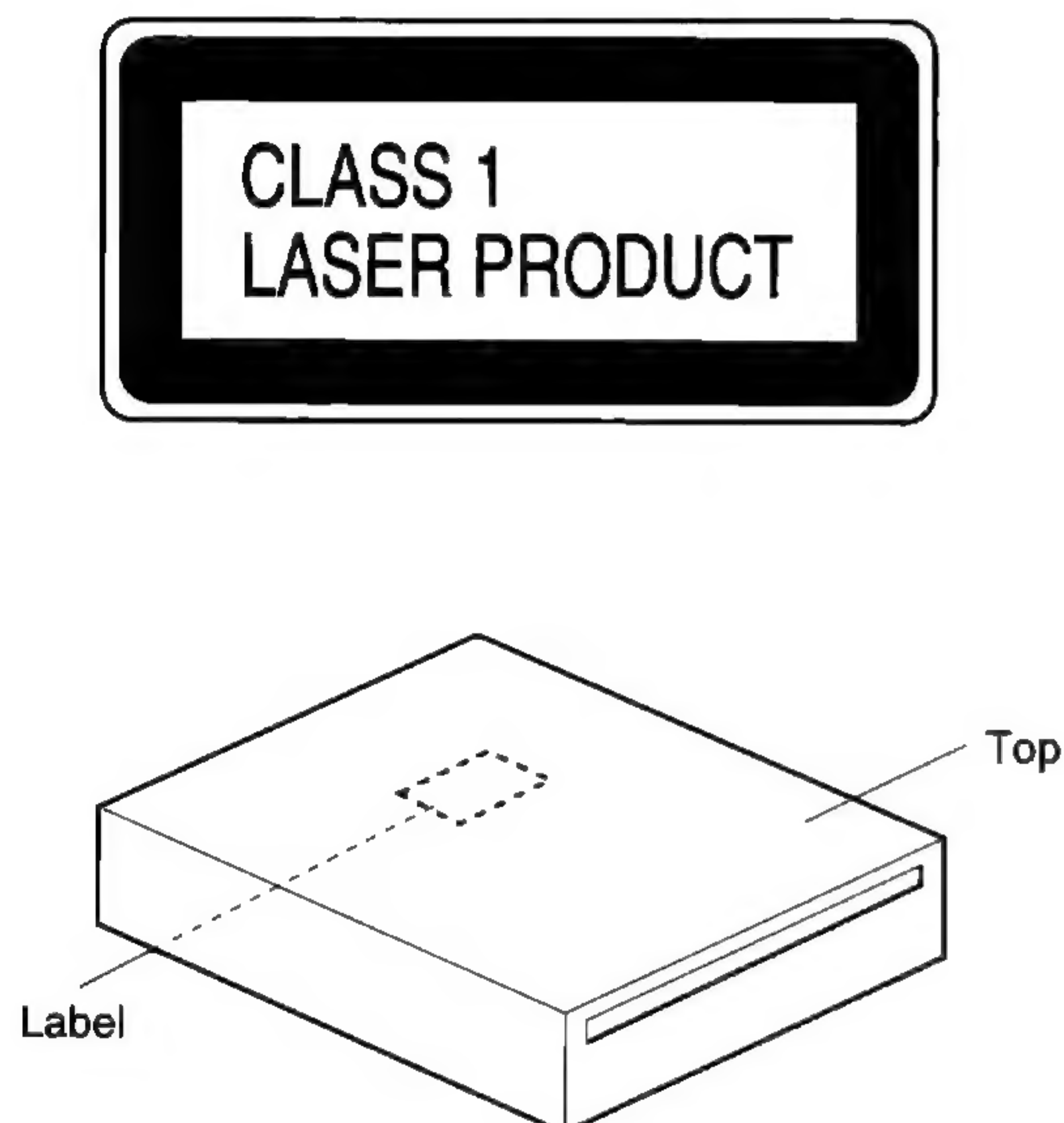
## 1. SAFETY INFORMATION

### 1. Safety Precautions for those who Service this Unit.

- When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.

#### Caution:

1. During repair or tests, minimum distance of 13cm from the focus lens must be kept.
  2. During repair or tests, do not view laser beam for 10 seconds or longer.
2. A "CLASS 1 LASER PRODUCT" label is affixed to the bottom of the player.
  3. The triangular label is attached to the mechanism unit frame.



### 4. Specifications of Laser Diode

Specifications of laser radiation fields to which human access is possible during service.

Wavelength = 800 nanometers



## 2. EXPLODED VIEWS AND PARTS LIST

### 2.1 PACKING

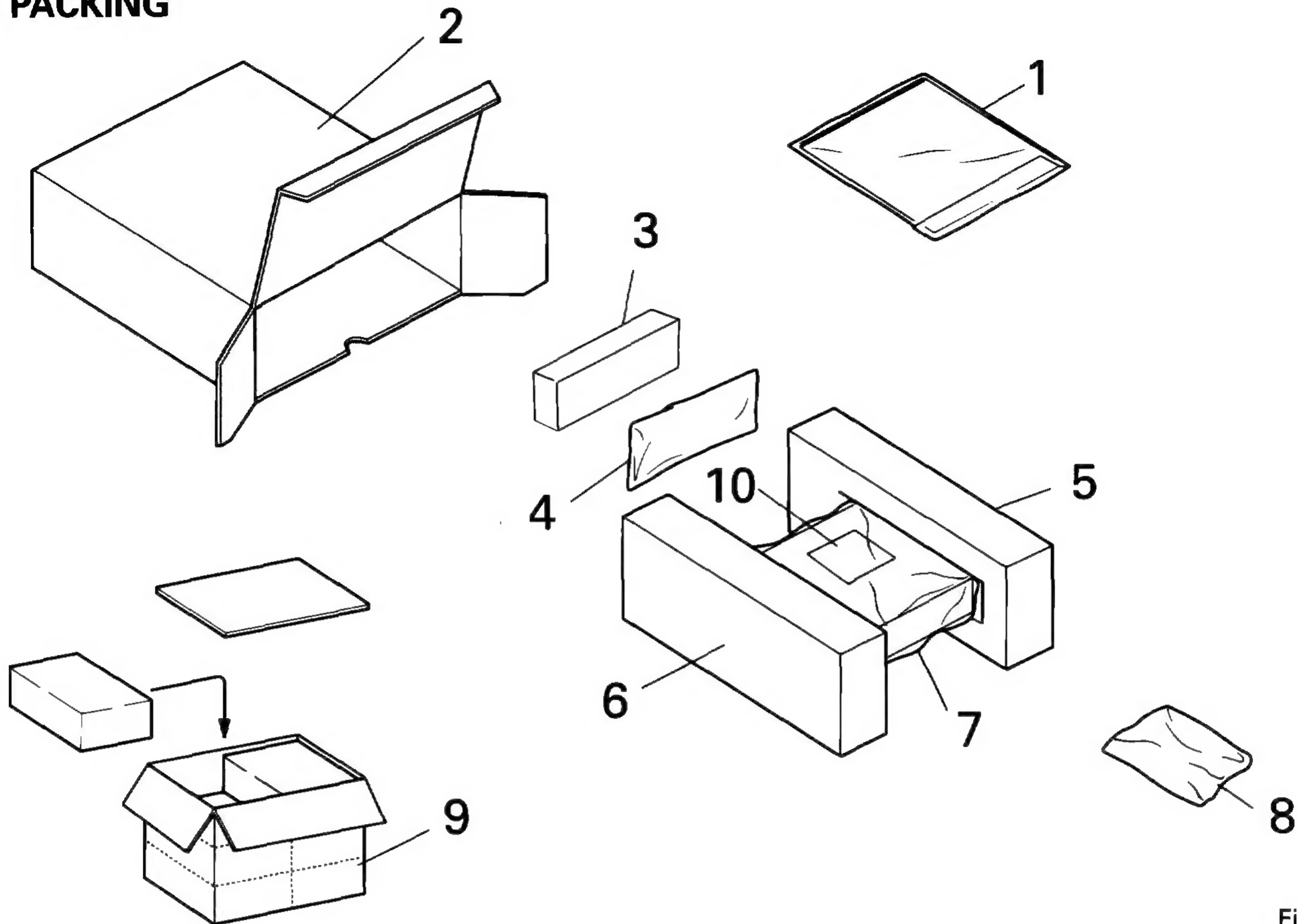


Fig. 1

#### NOTE:

● Parts marked by “\*” are generally unavailable because they are not in our Master Spare Parts List.

● Screws adjacent to ▼ mark on the product are used for disassembly.

#### ● Parts List

Mark	No.	Symbol & Description	Part No.		
			DEH-435R/X1M/EW	DEH-434R/X1M/EW	DEH-433R/X1M/GR
	1-1	Owner's Manual	CRD2238	CRD2238	CRB1389
	1-2	Owner's Manual	CRD2239	CRD2239	Not used
	1-3	Owner's Manual	CRD2240	CRD2240	Not used
	1-4	Installation Manual	CRD2241	CRD2241	CRB1394
*	1-5	Warranty Card	CRY1087	CRY1087	CRY1087
*	1-6	Passport	CRY1013	CRY1013	CRY1013
	1-7	Polyethylene Bag	CEG1116	CEG1116	CEG1116
	2	Carton	CHG3260	CHG3261	CHG3263
	3	Case Assy	CXB1063	CXB1063	CXB1063
	4	Cord Assy	CDE5401	CDE5401	CDE5401
	5	Protector	CHP1769	CHP1769	CHP1769
	6	Protector	CHP1768	CHP1768	CHP1768
	7	Polyethylene Bag	CEG-162	CEG-162	CEG-162
	8	Accessory Assy	CEA1917	CEA1917	CEA1917
	9	Contain Box	CHL3260	CHL3261	CHL3263
	10	Caution Card	CRP1145	CRP1145	CRP1145

● Owner’s Manual

Model	Part No.	Language
DEH-435R/X1M/EW	CRD2238	English, Spanish
DEH-434R/X1M/EW	CRD2239	French, German
	CRD2240	Italian, Dutch
DEH-424R/X1M/GR	CRB1389	German

● Installation Manual

Model	Part No.	Language
DEH-435R/X1M/EW	CRD2241	English, Spanish
DEH-434R/X1M/EW		French, German
		Italian, Dutch
DEH-424R/X1M/GR	CRB1394	German

● Accessory Assy

Accessory Assy CEA1917

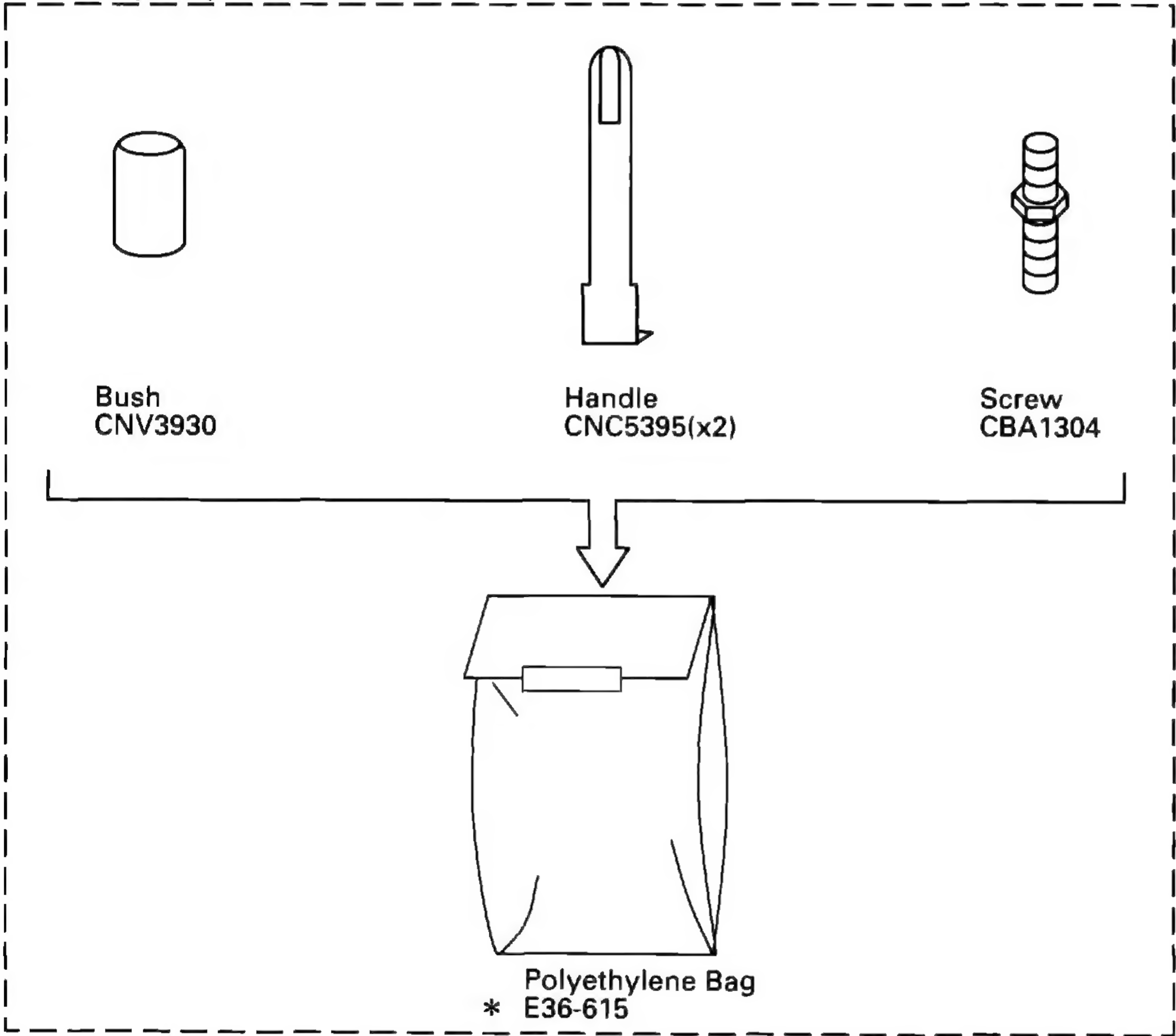


Fig. 2



## 2.2 EXTERIOR

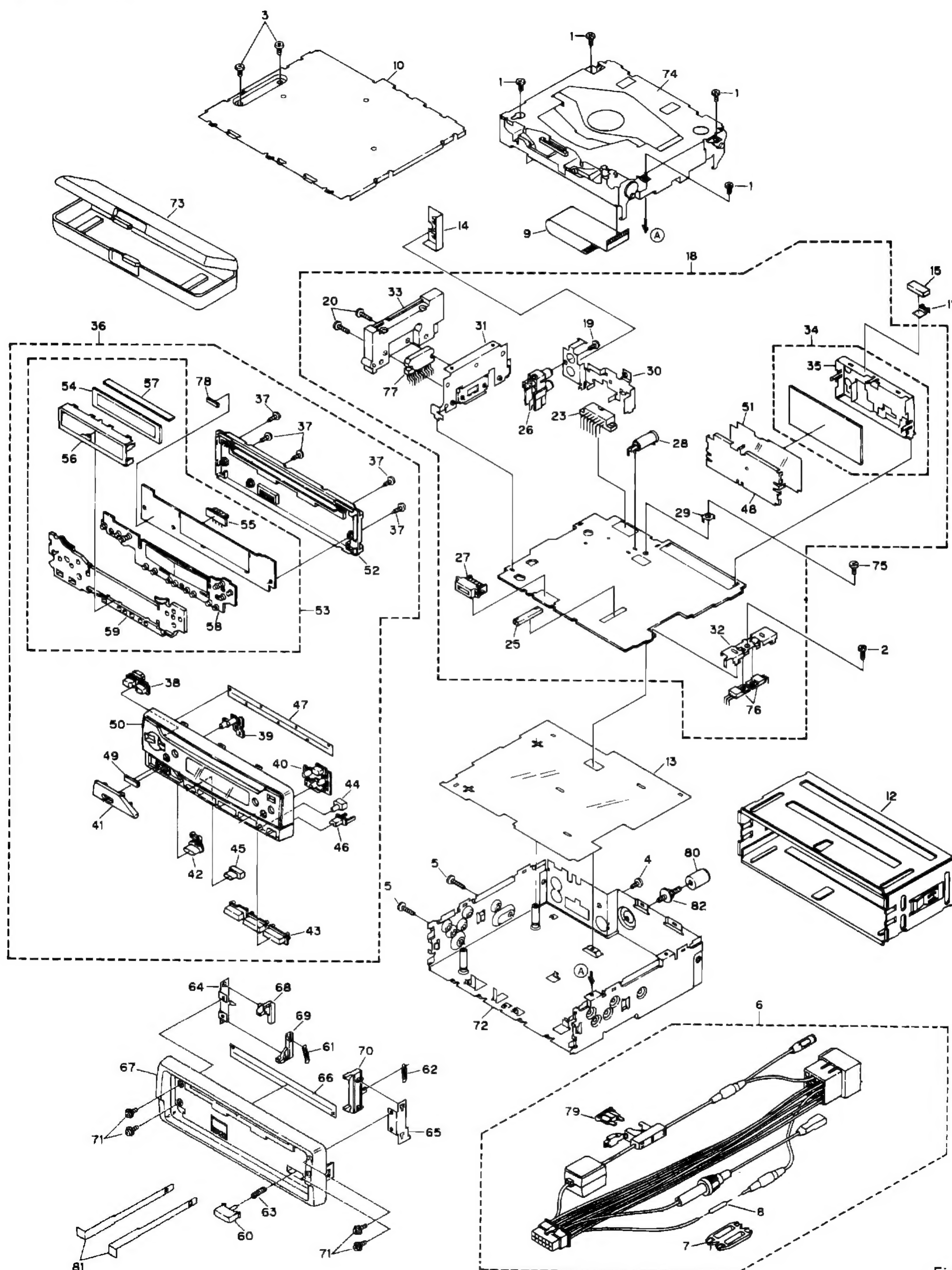


Fig. 3



**(1)PARTS LIST**

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC	41	Button(- +)	See Contrast table(2)
2	Screw	ASZ26P080FMC	42	Button(SOURCE)	CAC4904
3	Screw	BSZ30P050FMC	43	Button(1-6)	See Contrast table(2)
4	Screw	BSZ30P060FMC	44	Button(BSM)	CAC4906
5	Screw	BSZ30P160FMC	45	Button(BAND)	CAC4907
6	Cord Assy	CDE5401	46	Button(DETACH)	See Contrast table(2)
7	Cap	CNS1472	47	Cover	CNM4704
8	Resistor	RS1/2PMF102J	48	Holder	CNC6356
9	Cable	CDE4869	49	Cushion	CNM5156
10	Case	CNB1989	50	Grille Unit	See Contrast table(2)
11	Holder	CNC6469	51	Insulator	CNM4684
12	Holder	CNC6798	52	Cover	See Contrast table(2)
13	Insulator	CNM5067	53	Keyboard Unit	See Contrast table(2)
14	Insulator	CNM4811	54	LCD(LCD901)	CAW1328
15	Cushion	CNM5210	55	Connector(CN901)	CKS3580
16	.....		56	Holder	CNC6873
17	.....		57	Connector	CNV4449
18	Tuner Amp Unit	See Contrast table(2)	58	Rubber	CNV4766
19	Screw	BPZ26P120FMC	59	Lighting Conductor	CNV4777
20	Screw	BSZ26P120FMC	60	Button	CAC4836
21	.....		61	Spring	CBH1834
22	.....		62	Spring	CBH1835
23	Plug(CN951)	CKM1225	63	Spring	CBH1933
24	.....		64	Bracket	CNC6135
25	Connector(CN681)	CKS2228	65	Bracket	CNC6791
26	Connector(CN421)	CKS3357	66	Cover	CNM4875
27	Connector(CN651)	CKS3581	67	Panel	See Contrast table(2)
28	Antenna Jack(CN501)	CKX1056	68	Arm	CNV4692
29	Holder	CNC5399	69	Arm	CNV4693
30	Bracket	CNC6130	70	Arm	CNV4728
31	Holder	CNC6131	71	Screw	IMS20P030FZK
32	Holder	CNC6132	72	Chassis Unit	See Contrast table(2)
33	Heat Sink	CNR1407	73	Case Assy	CXB1063
34	FM/AM Tuner Unit	See Contrast table(2)	74	CD Mechanism Module(S7)	CXK4201
35	Holder	CNC6555	75	Screw	BSZ30P055FUC
36	Detach Grille Assy	See Contrast table(2)	76	Transistor(Q981,991)	2SD2396
37	Screw	BPZ20P100FZK	77	IC(IC551)	TDA7384A
38	Button(S.SEEK)	See Contrast table(2)	78	Cushion	CNM5271
39	Button(LOC.CLOCK)	See Contrast table(2)	79	Fuse(10A)	CEK1136
40	Button(EJECT)	See Contrast table(2)	80	Bush	CNV3930
			81	Handle	CNC5395
			82	Screw	CBA1304



**(2) CONTRAST TABLE**

**DEH-435R/X1M/EW, DEH-434R/X1M/EW and DEH-433R/X1M/GR have the same construction except for the following:**

Mark No.	Symbol & Description	Part No.		
		DEH-435R/X1M/EW	DEH-434R/X1M/EW	DEH-433R/X1M/GR
18	Tuner Amp Unit	CWM4963	CWM4963	CWM5202
34	FM/AM Tuner Unit	CWE1416	CWE1416	CWE1420
36	Detach Grille Assy	CXA9572	CXA9573	CXB1004
38	Button(S.SEEK)	CAC4900	CAC5212	CAC5212
39	Button(LOC,CLOCK)	CAC4901	CAC5213	CAC5213
40	Button(EJECT)	CAC4902	CAC5214	CAC5214
41	Button(- +)	CAC4903	CAC4932	CAC4932
43	Button(1-6)	CAC4905	CAC4933	CAC4933
46	Button(DETACH)	CAC4908	CAC4913	CAC4913
50	Grille Unit	CXB1462	CXB1463	CXB1464
52	Cover	CNS4203	CNS4364	CNS4364
53	Keyboard Unit	CWM4971	CWM4972	CWM4972
67	Panel	CNS4210	CNS4265	CNS4265
72	Chassis Unit	CXA9698	CXA9730	CXB1041



2.3 CD MECHANISM MODULE

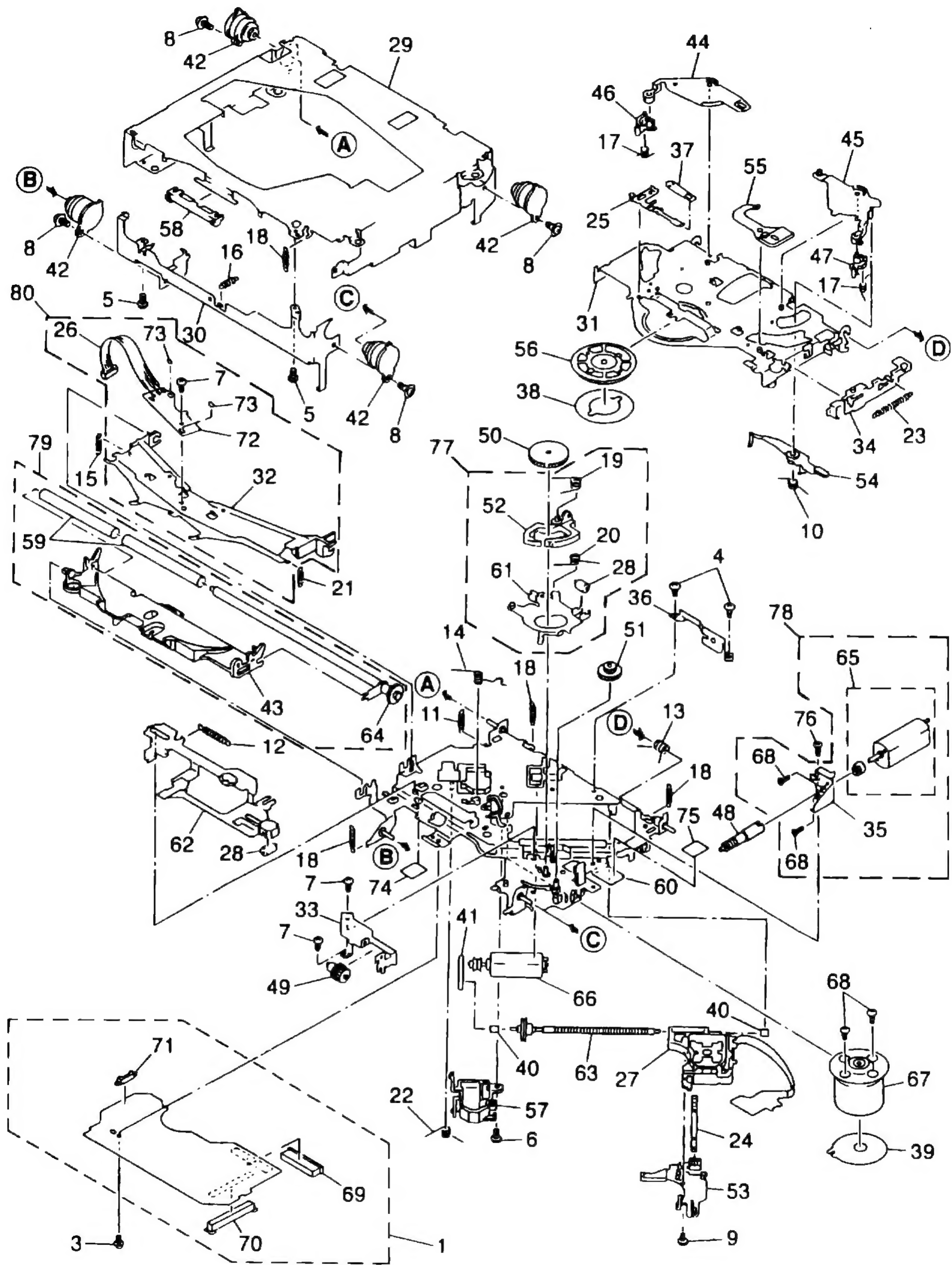


Fig. 4



● Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Control Unit	CWX1889	46	Arm	CNV4124
2	.....		47	Arm	CNV4125
3	Screw	IMS26P035FMC	48	Gear	CNV4128
4	Screw	BMZ20P040FMC	49	Gear	CNV4129
5	Screw	BSZ20P040FMC	50	Gear	CNV4130
6	Screw(M2×3)	CBA1077	51	Gear	CNV4131
7	Screw(M2×2)	CBA1250	52	Arm	CNV4136
8	Screw(M2×5)	CBA1296	53	Holder	CNV4663
9	Screw(M2×3.85)	CBA1362	54	Arm	CNV4138
10	Spring	CBH1916	55	Arm	CNV4139
11	Spring	CBH1724	56	Clamper	CNV4712
12	Spring	CBH1939	57	Holder	CNV4664
13	Spring	CBH1729	58	Guide	CNV4484
14	Spring	CBH1730	59	Roller	CNV4509
15	Spring	CBH1731	60	Chassis Unit	CXA8561
16	Spring	CBH1732	61	Arm Unit	CXA8565
17	Spring	CBH1736	62	Lever Unit	CXA9300
18	Spring	CBH1745	63	Screw Unit	CXA9388
19	Spring	CBH1832	64	Gear Unit	CXA9389
20	Spring	CBH1833	65	Load Motor Unit(M3)	CXA9391
21	Spring	CBH1848	66	CRG Motor Unit(M2)	CXA9392
22	Spring	CBH1849	67	Motor Unit(M1)	CXA9407
23	Spring	CBH1863	68	Screw	JFZ20P025FMC
24	Spring	CBL1214	69	Connector(CN101)	CKS1953
25	Spring	CBL1269	70	Connector(CN701)	CKS2774
26	Connector(CN1)	CDE4576	71	Connector(CN801)	CKS2196
27	Pickup Unit(Service)	CXX1230	* 72	Gathering PCB	CNX2445
28	Roller	CLA2627	73	Photo-transistor(Q1, 2)	CPT-230S-X
29	Frame	CNC5796	74	Sheet	CNM4873
30	Frame	CNC5797	75	Cushion	CNM3917
31	Arm	CNC5799	76	Screw	BMZ20P025FMC
32	Arm	CNC5801	77	.....	
33	Bracket	CNC5871	78	.....	
34	Lever	CNC6054	79	.....	
35	Bracket	CNC6056	80	.....	
* 36	Bracket	CNC6376			
37	Spacer	CNM3315			
38	Sheet	CNM4849			
39	PCB	CNP4230			
40	Bearing	CNR1415			
41	Belt	CNT1071			
42	Damper	CNV3974			
43	Arm	CNV4120			
44	Arm	CNV4122			
45	Arm	CNV4123			







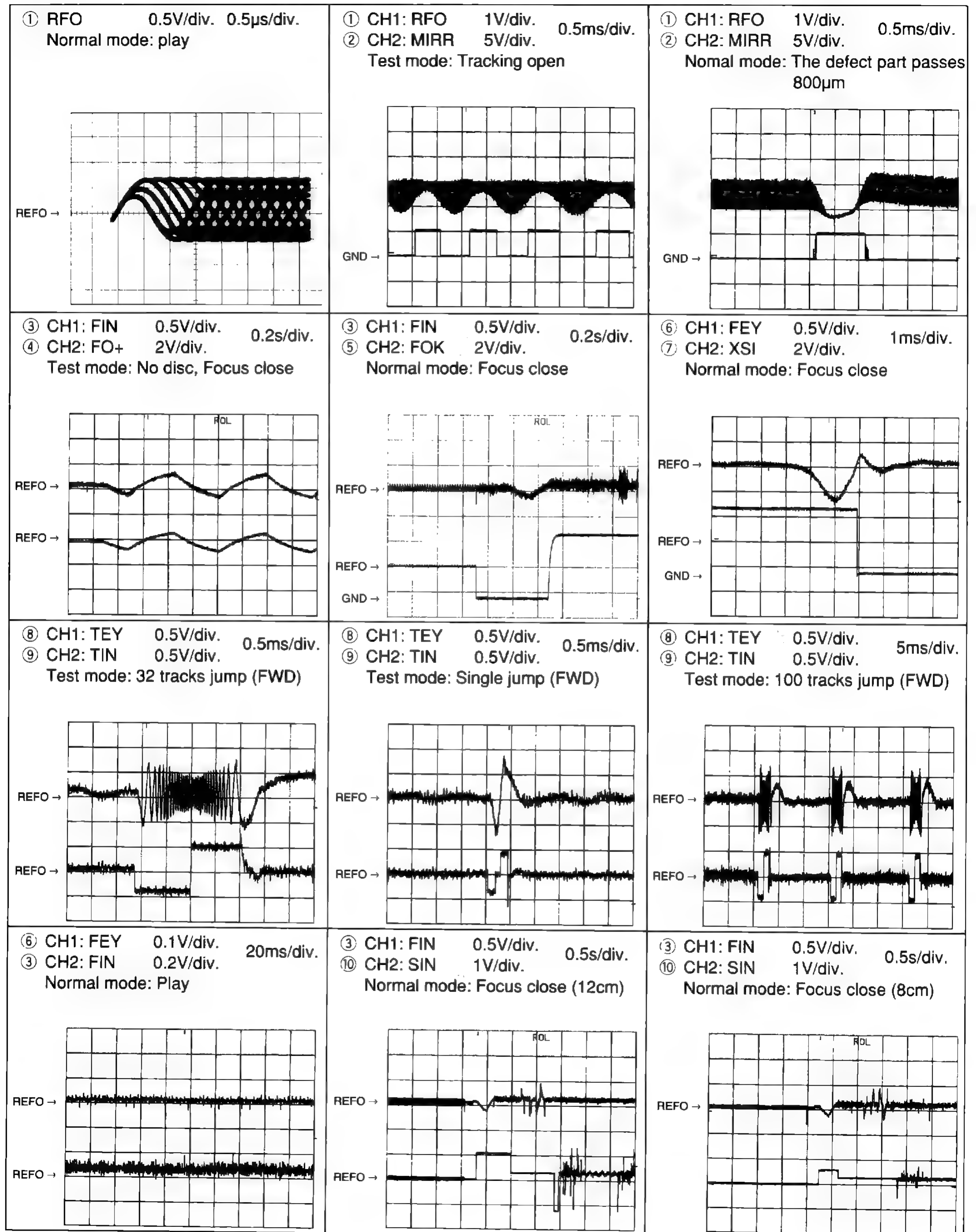
### 3. SCHEMATIC DIAGRAM

Note:1. The encircled numbers denote measuring pointes in the circuit diagram.

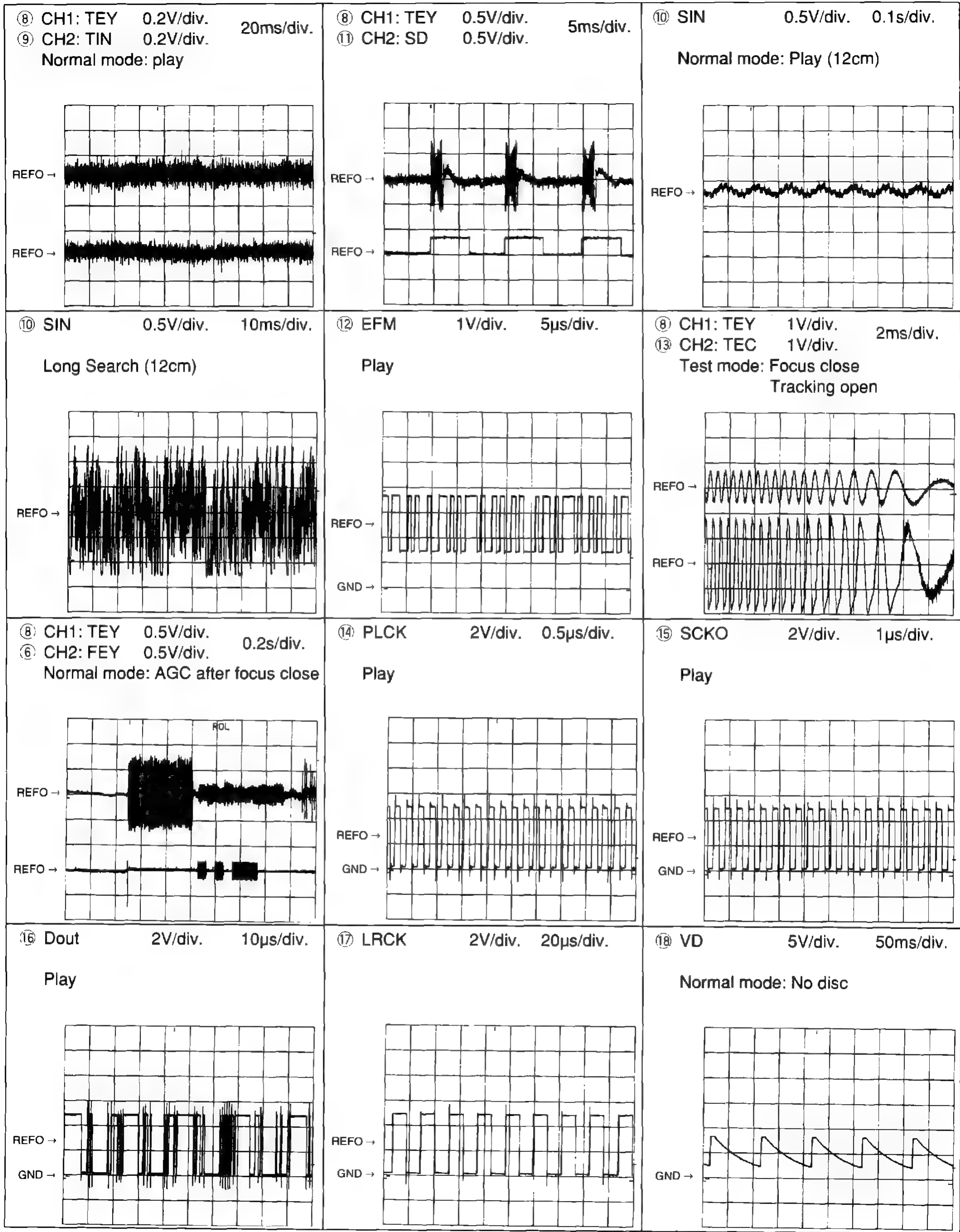
2. Reference voltage

REFO:2.5V

#### ● Waveforms

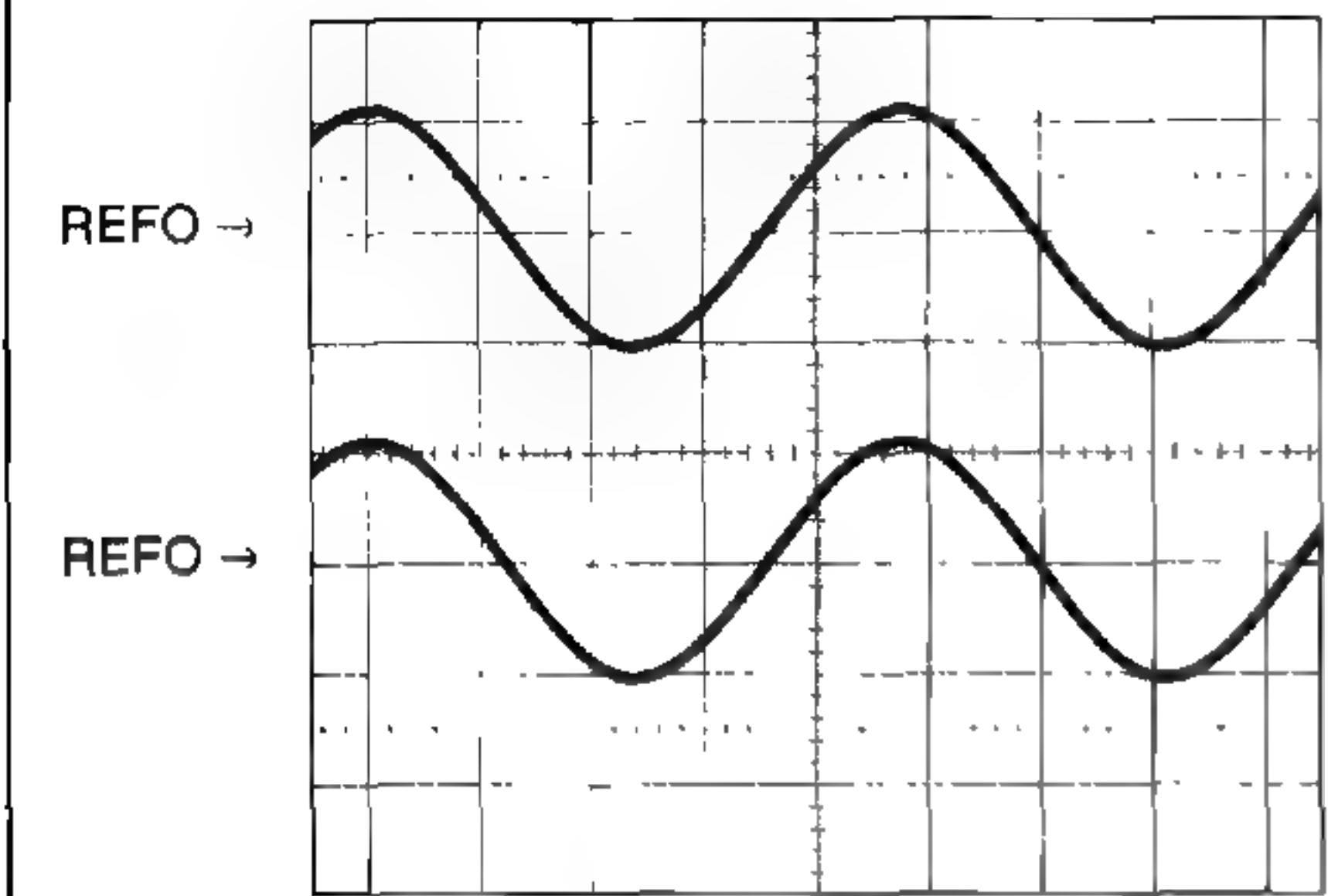




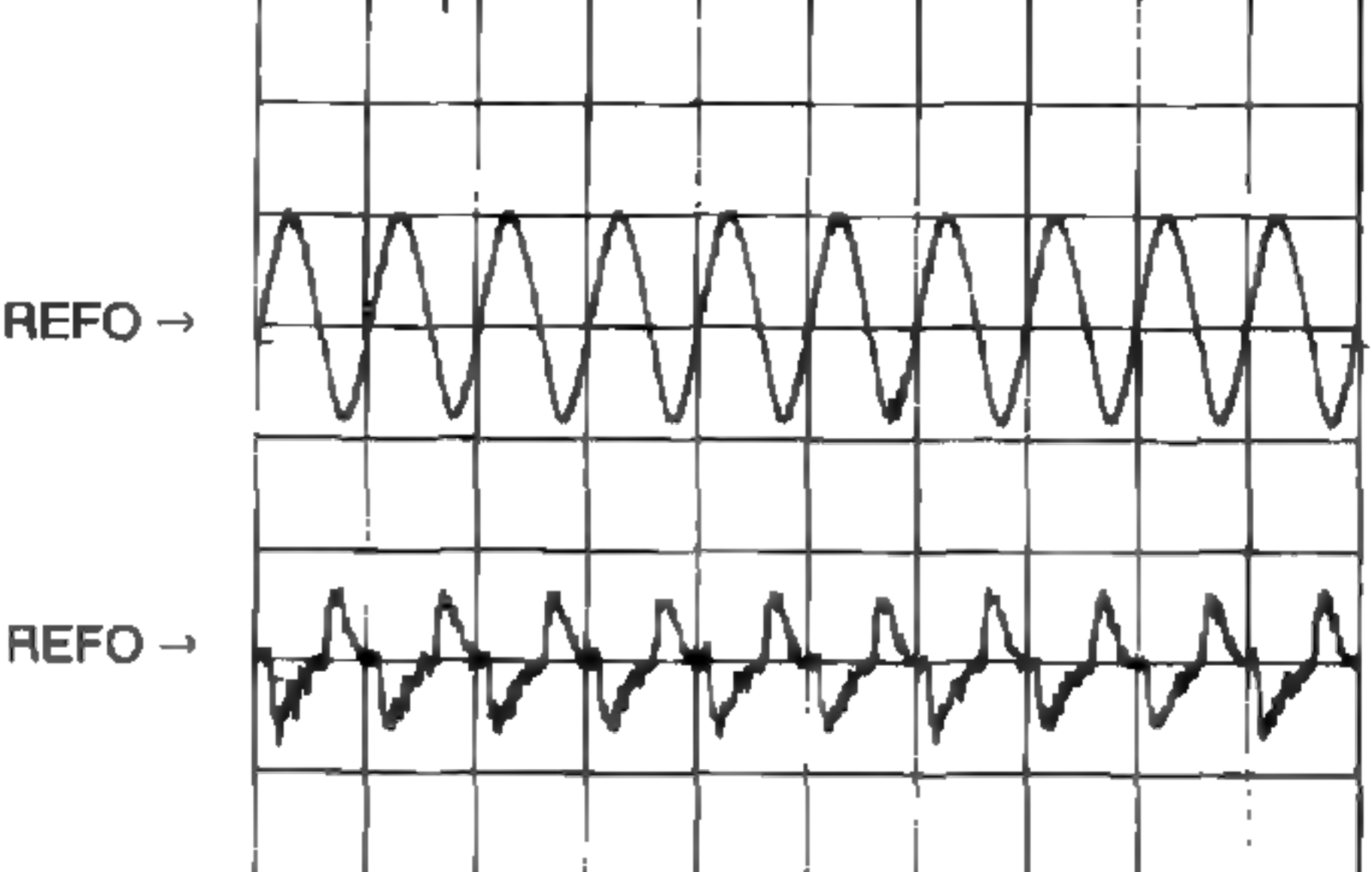




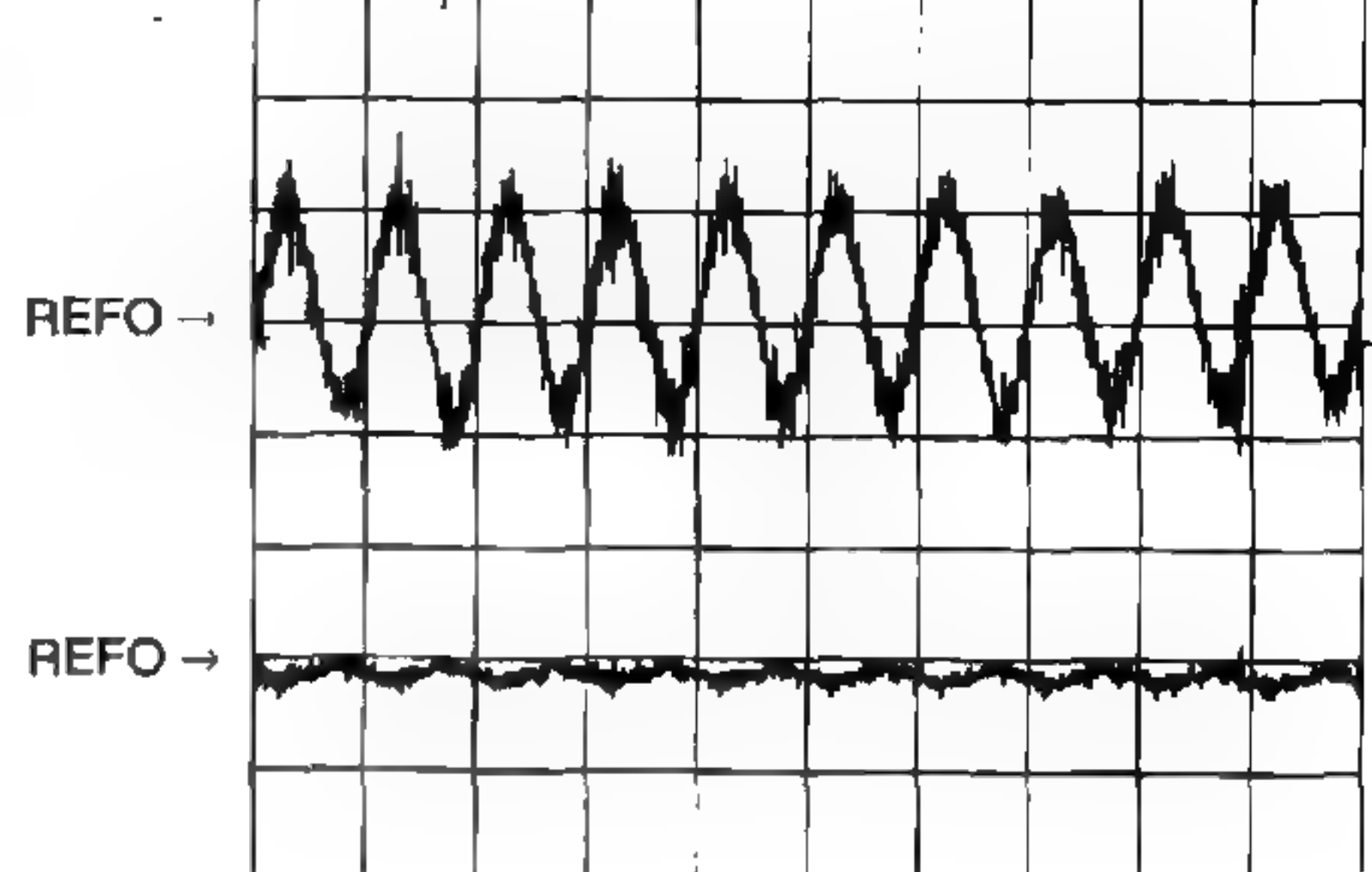
⑮ CH1: R OUT 1V/div. 0.2ms/div.  
⑯ CH2: L OUT 1V/div.  
Normal mode: Play (1kHz 0dB)



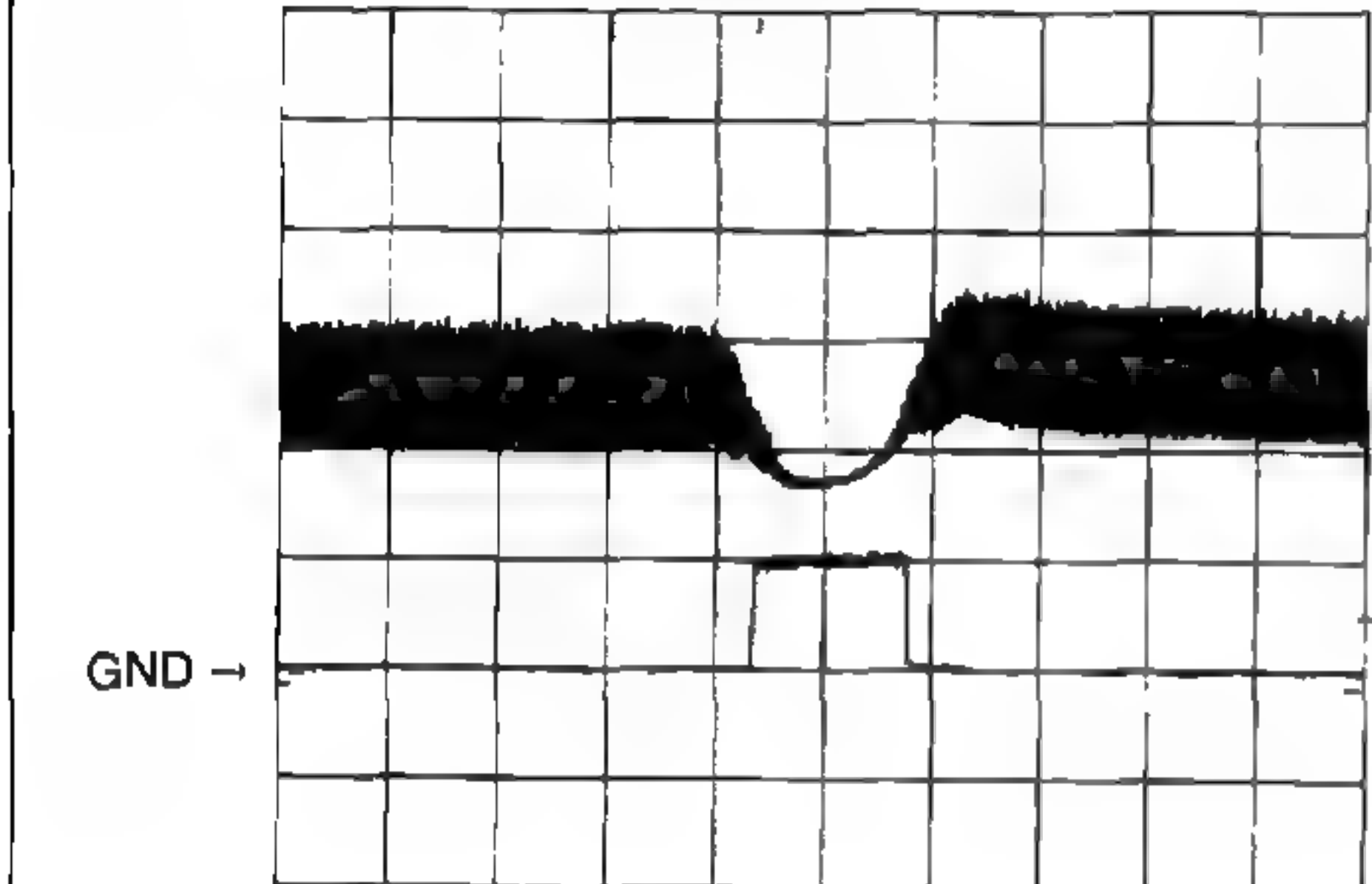
⑥ CH1: FEY 0.2V/div. 1ms/div.  
③ CH2: FIN 0.5V/div.  
Normal mode: During AGC



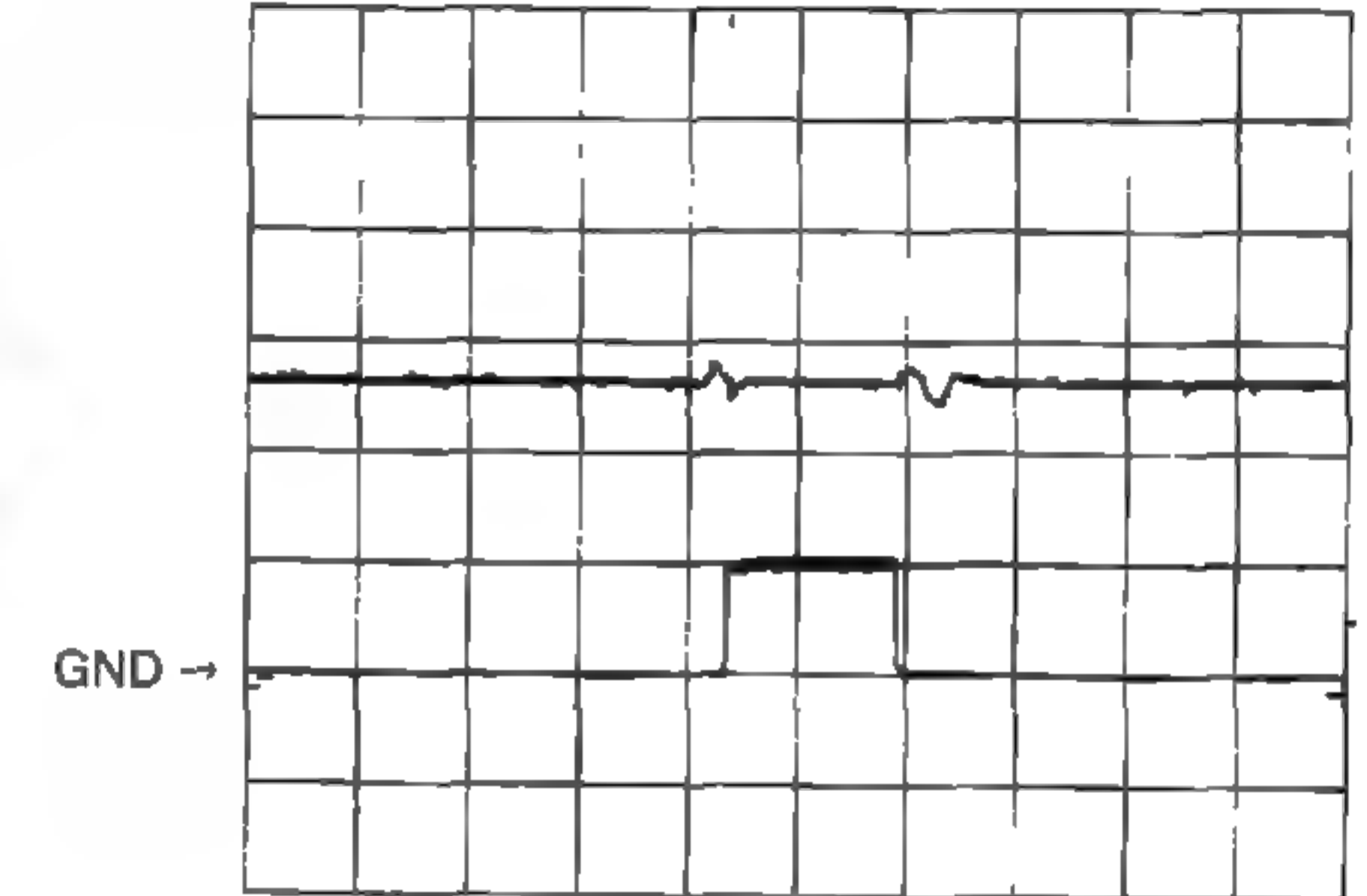
⑧ CH1: TEY 0.2V/div. 1ms/div.  
⑨ CH2: TIN 0.5V/div.  
Normal mode: During AGC



① CH1: RFO 1V/div. 0.5ms/div.  
② CH2: HOLD 5V/div.  
Normal mode: The defect part passes 800μm



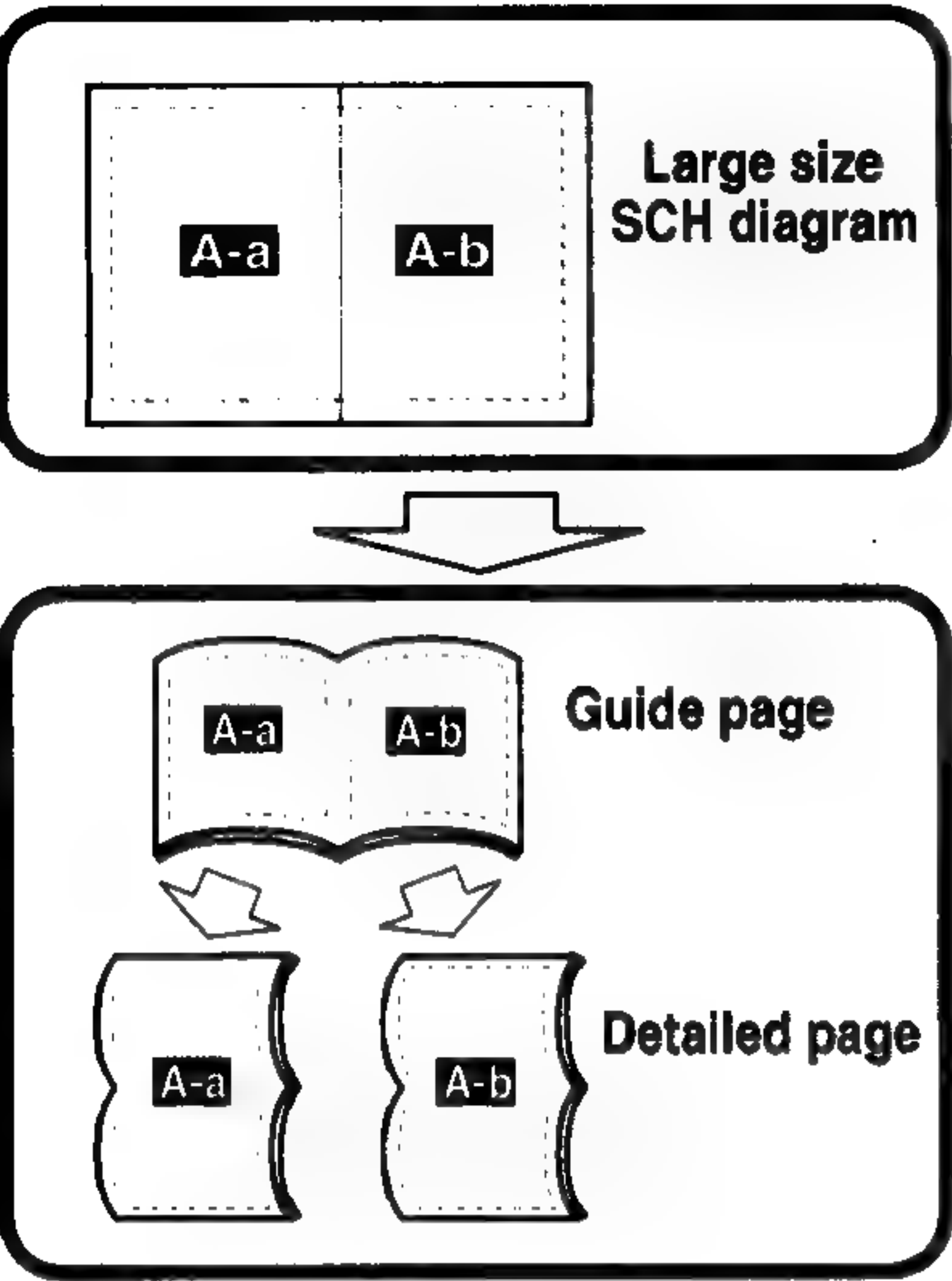
③ CH1: FIN 1V/div. 0.5ms/div.  
④ CH2: HOLD 5V/div.  
Normal mode: The defect part passes 800μm



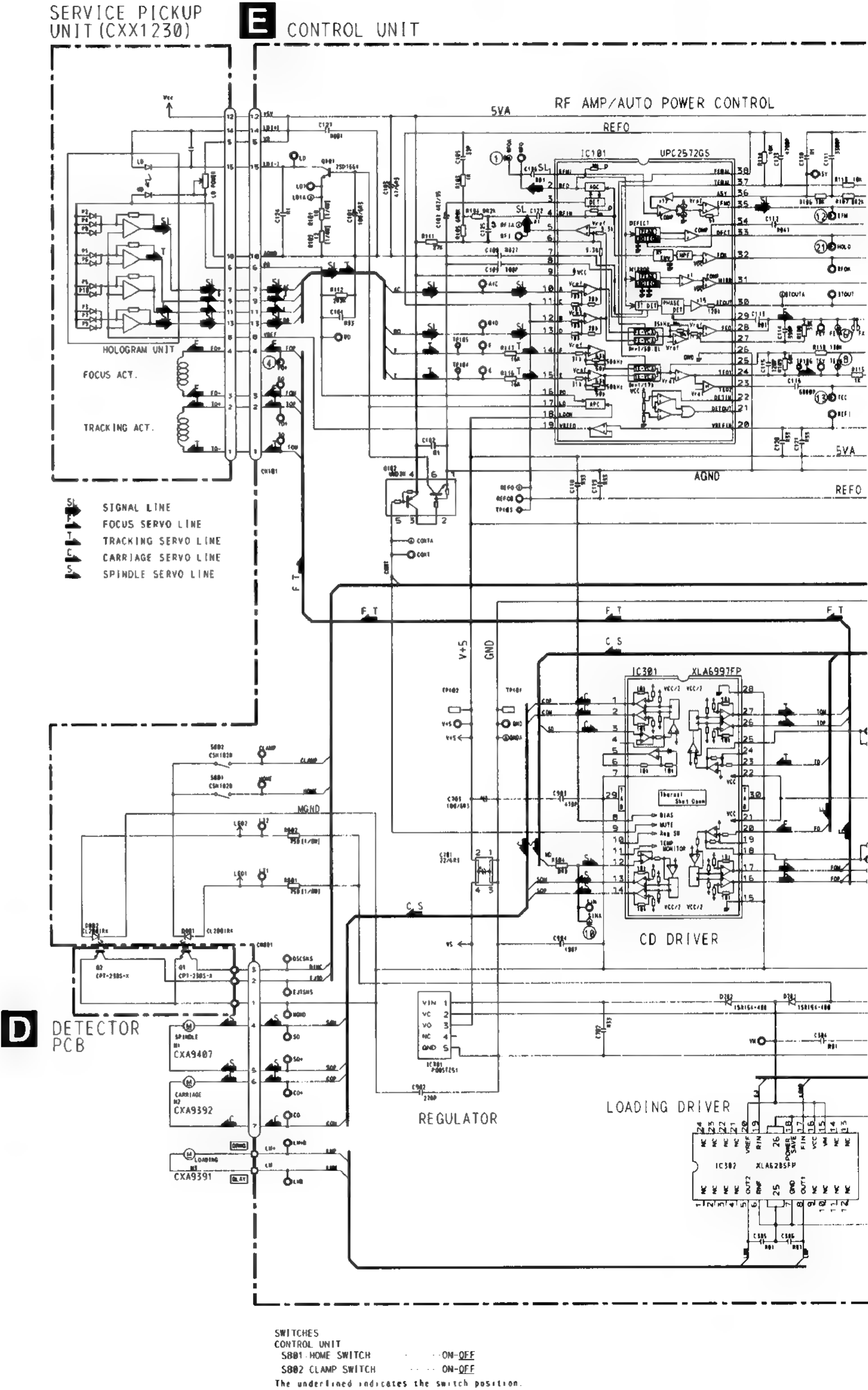


3.1 CD MECHANISM MODULE(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to “EXPLODED VIEWS AND PARTS LIST” or “ELECTRICAL PARTS LIST”.



E-a





E-b

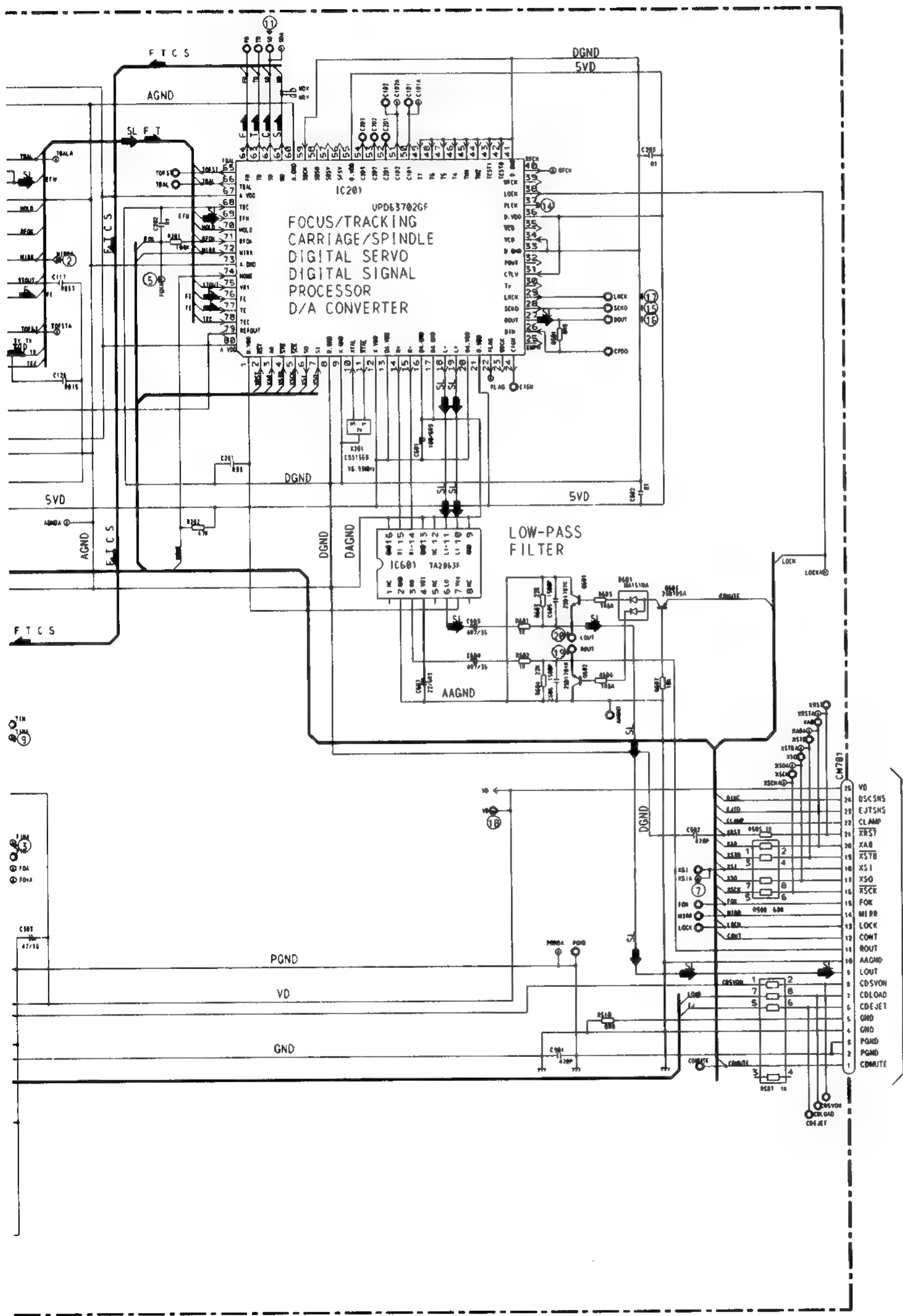
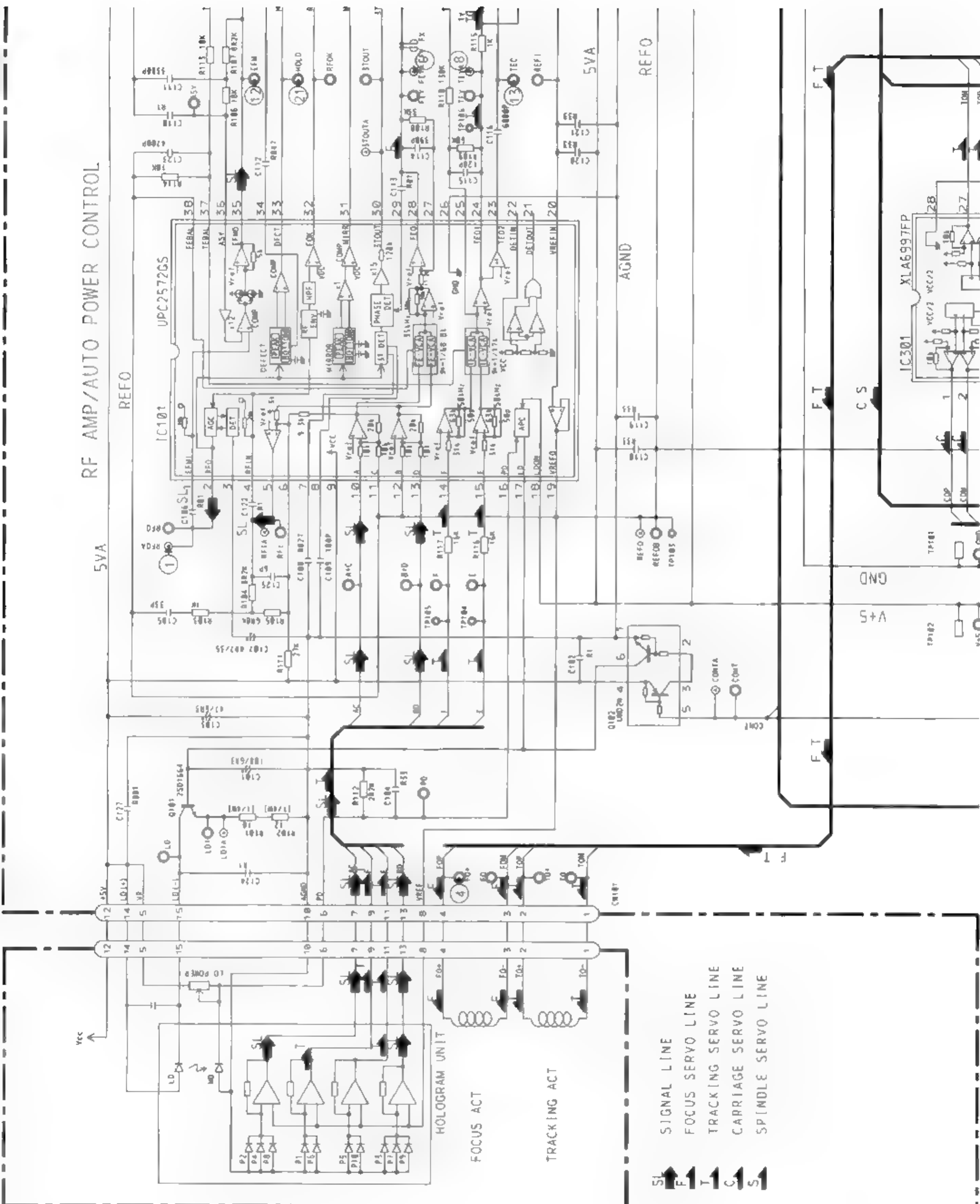
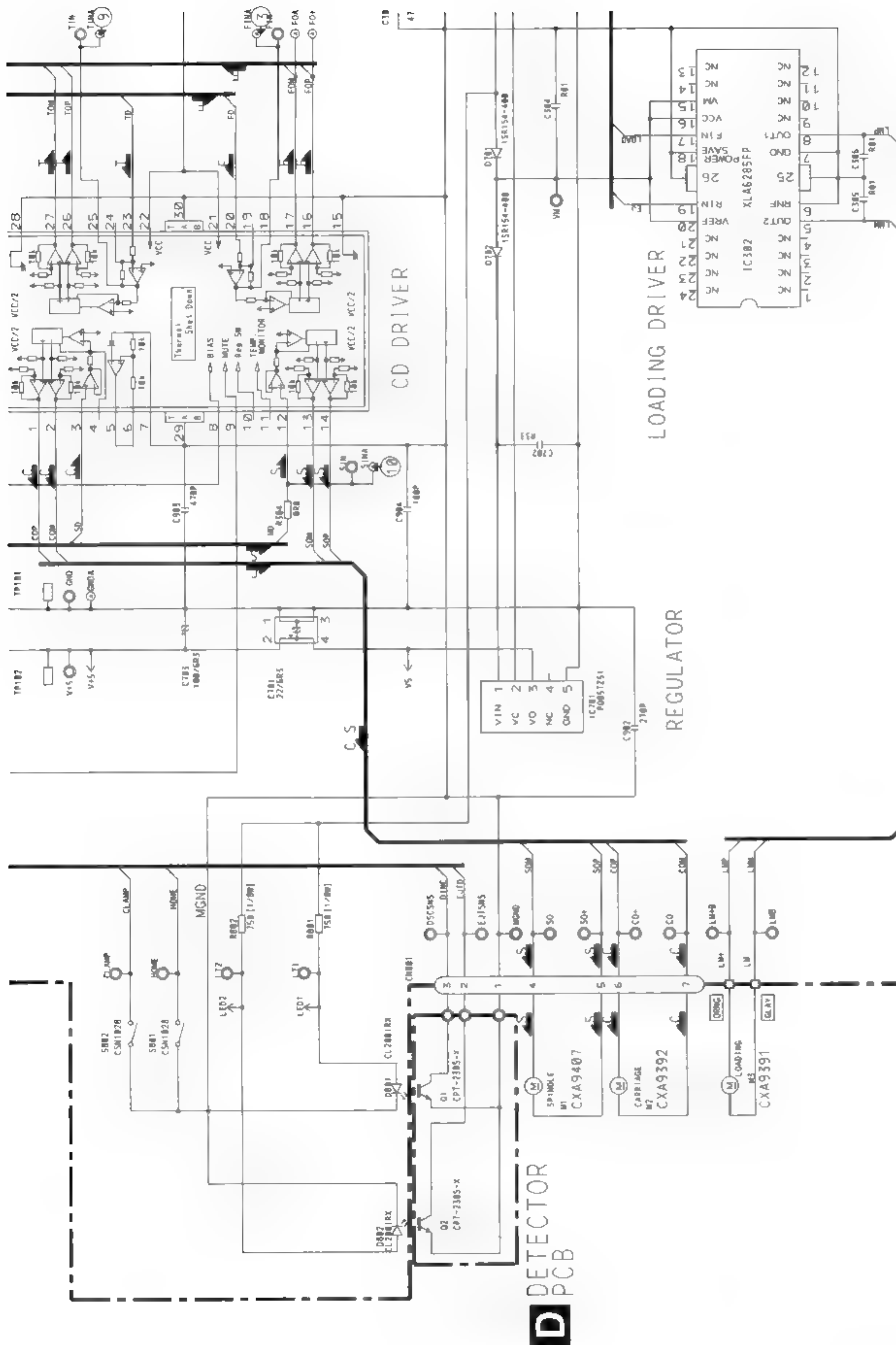


Fig. 5









SWITCHES.

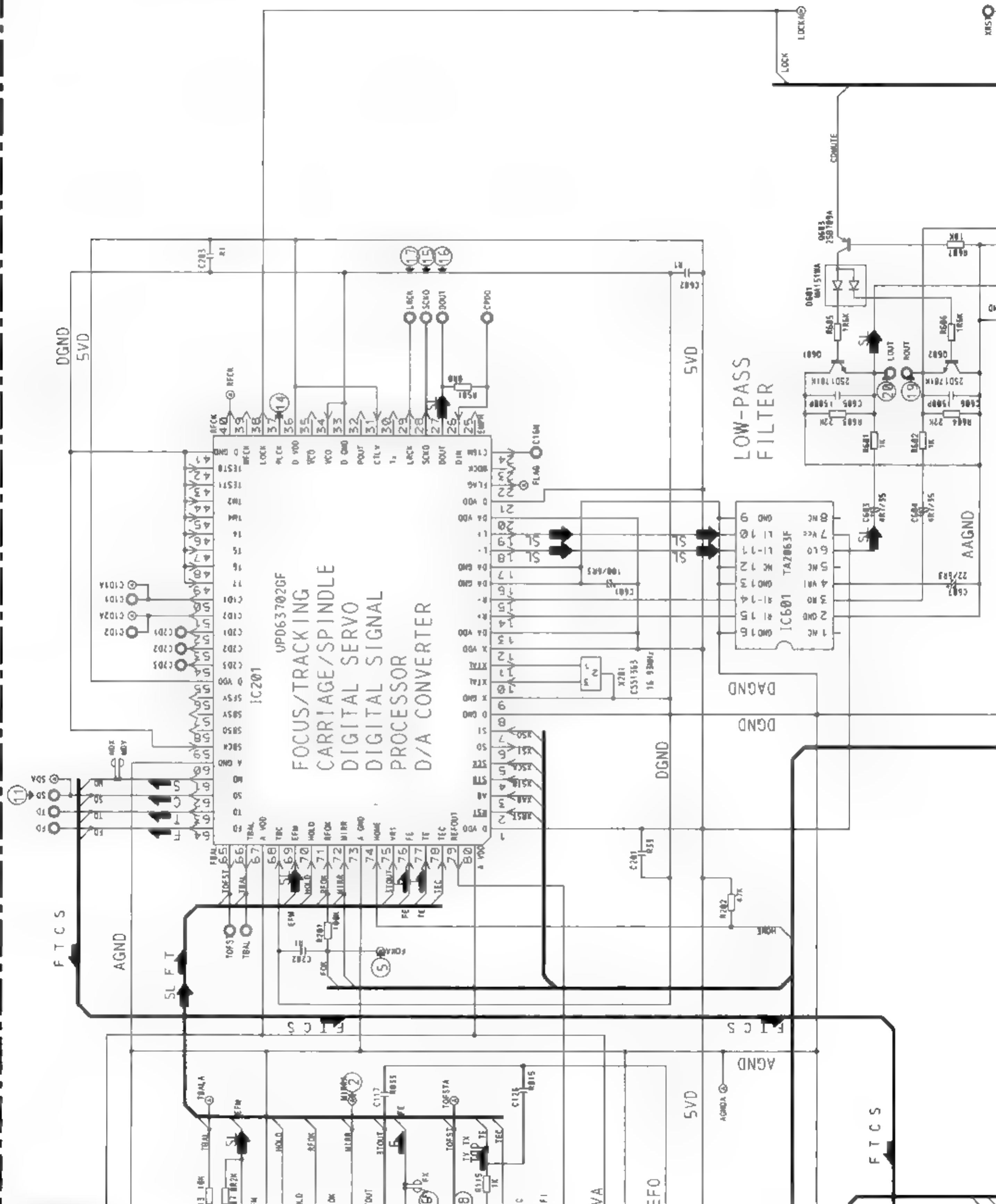
CONTROL UNIT	
S801 HOME SWITCH	<u>ON-OFF</u>
S802 CLAMP SWITCH	<u>ON-OFF</u>

The underlined indicates the switch position.

**Fig. 6**

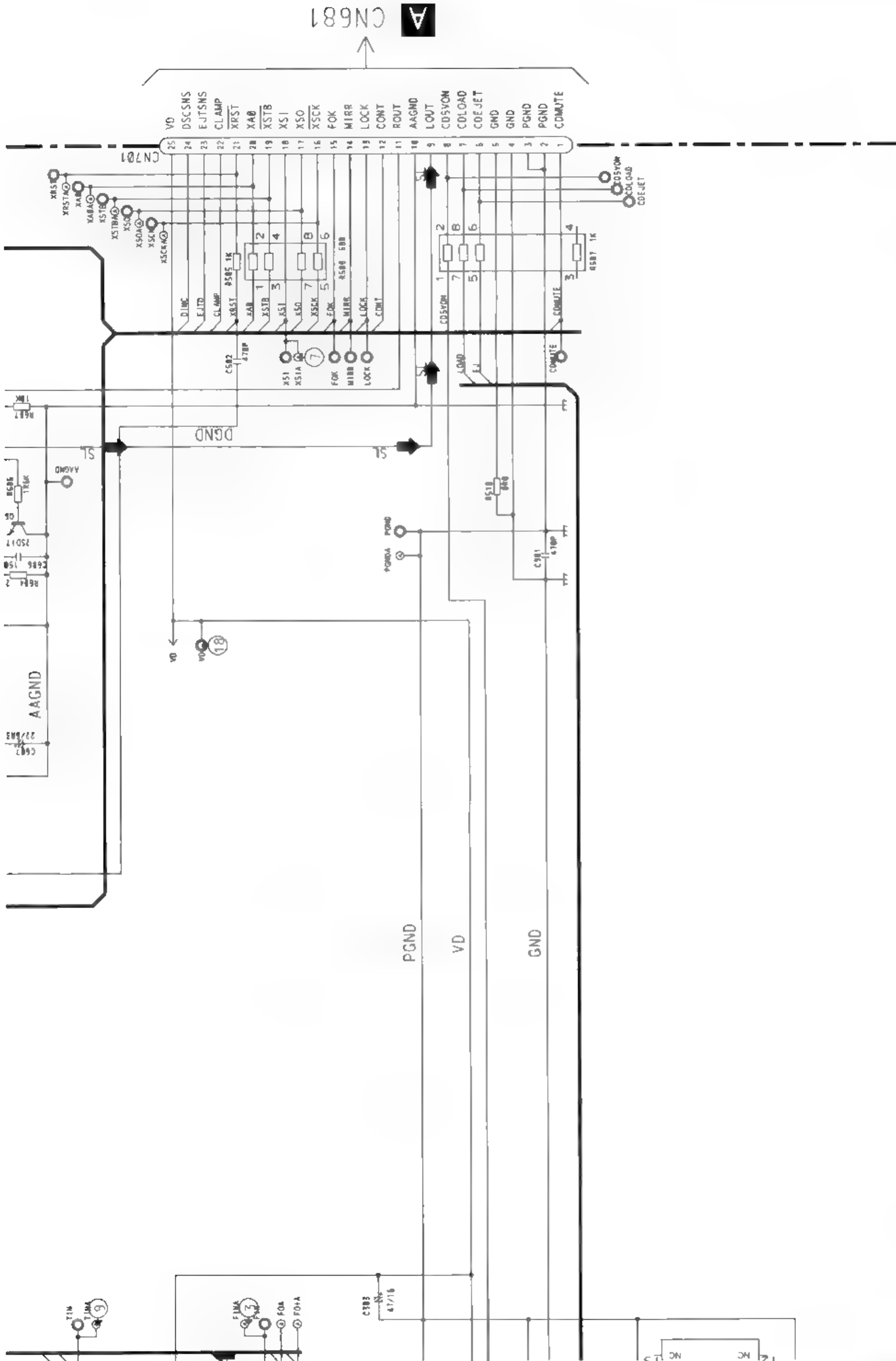


E-a



E-b





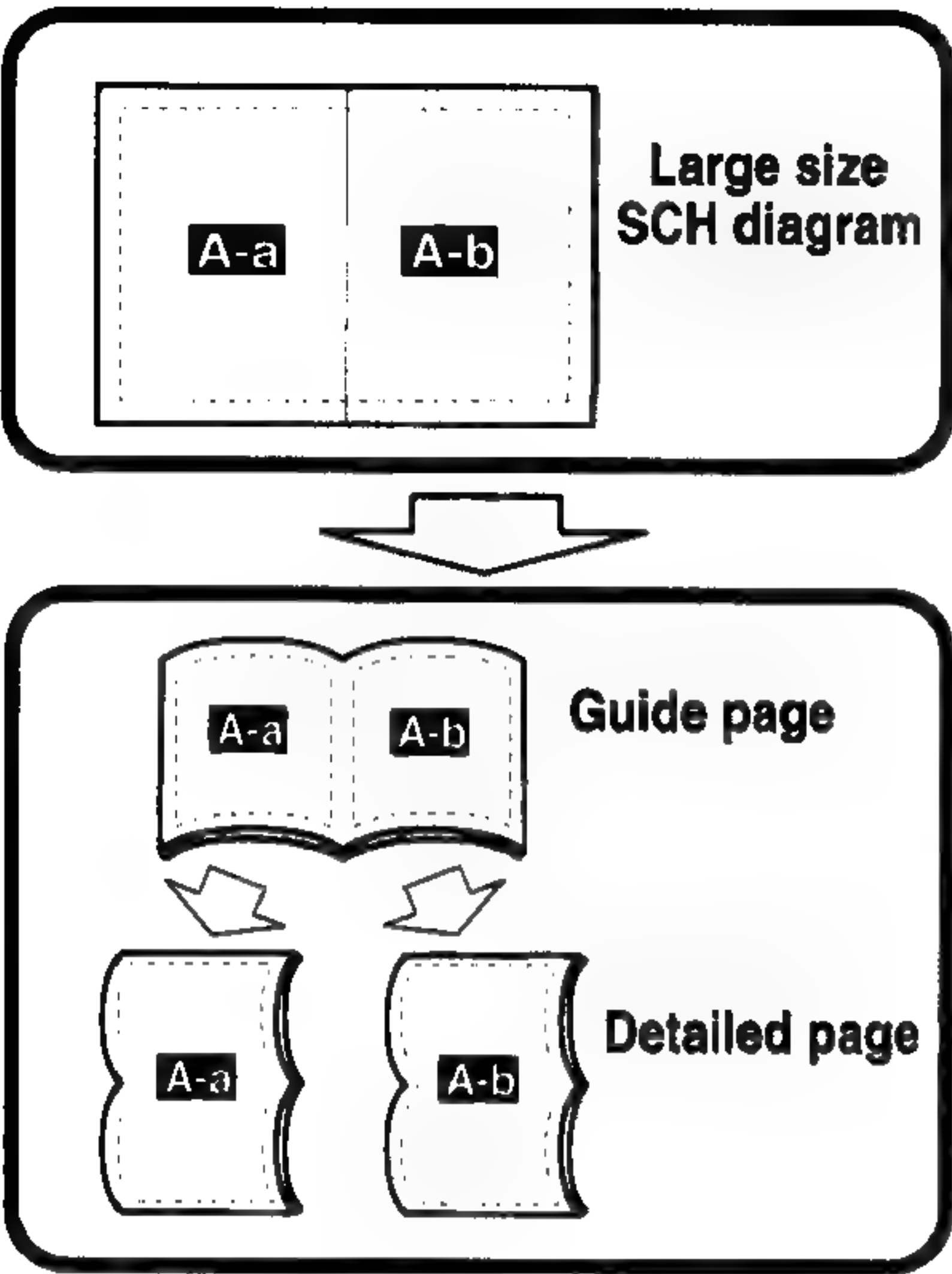
E-a

Fig. 7

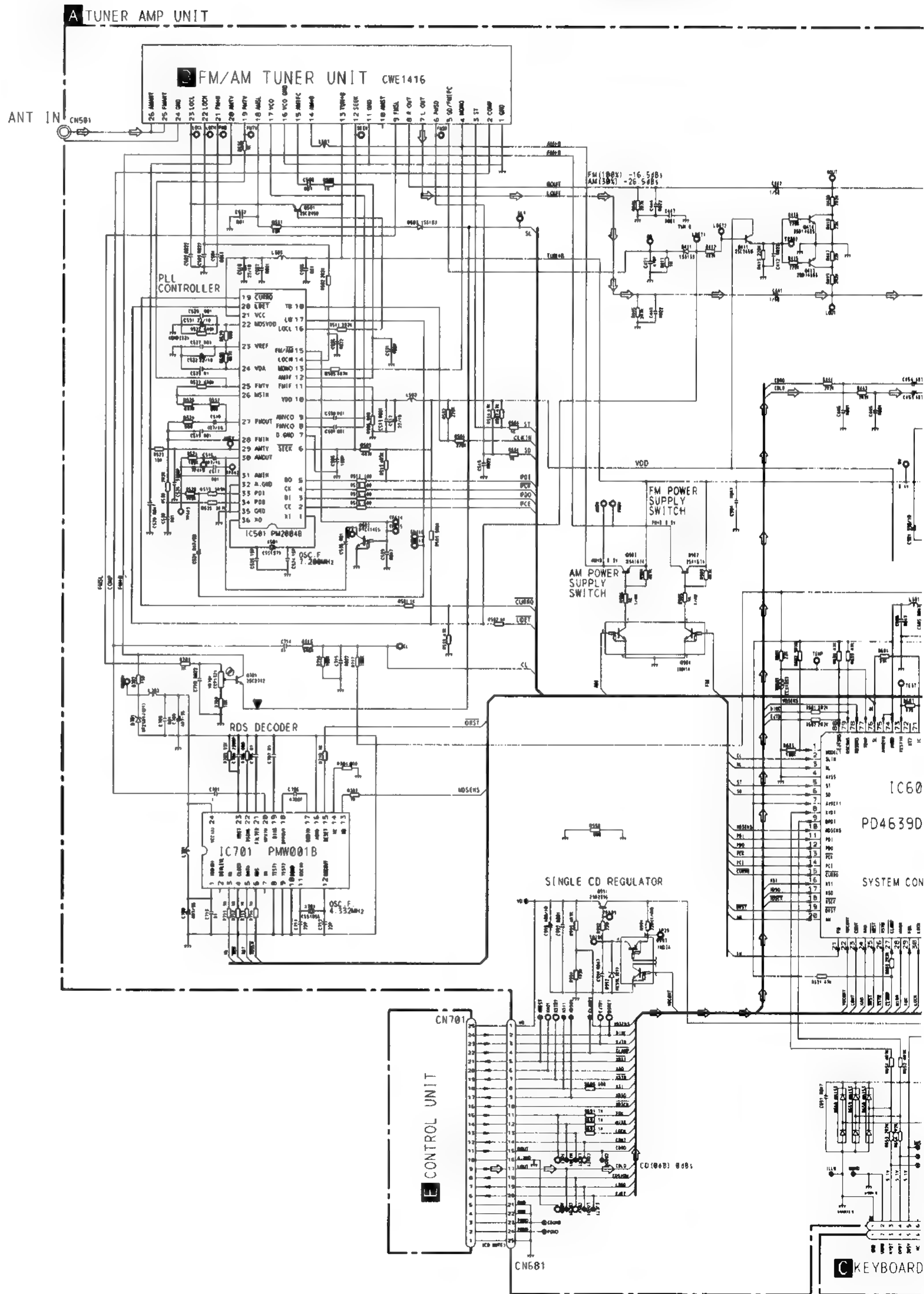
E-b



3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)  
(DEH-435R/X1M/EW, 434R/X1M/EW)



A-a





A-b

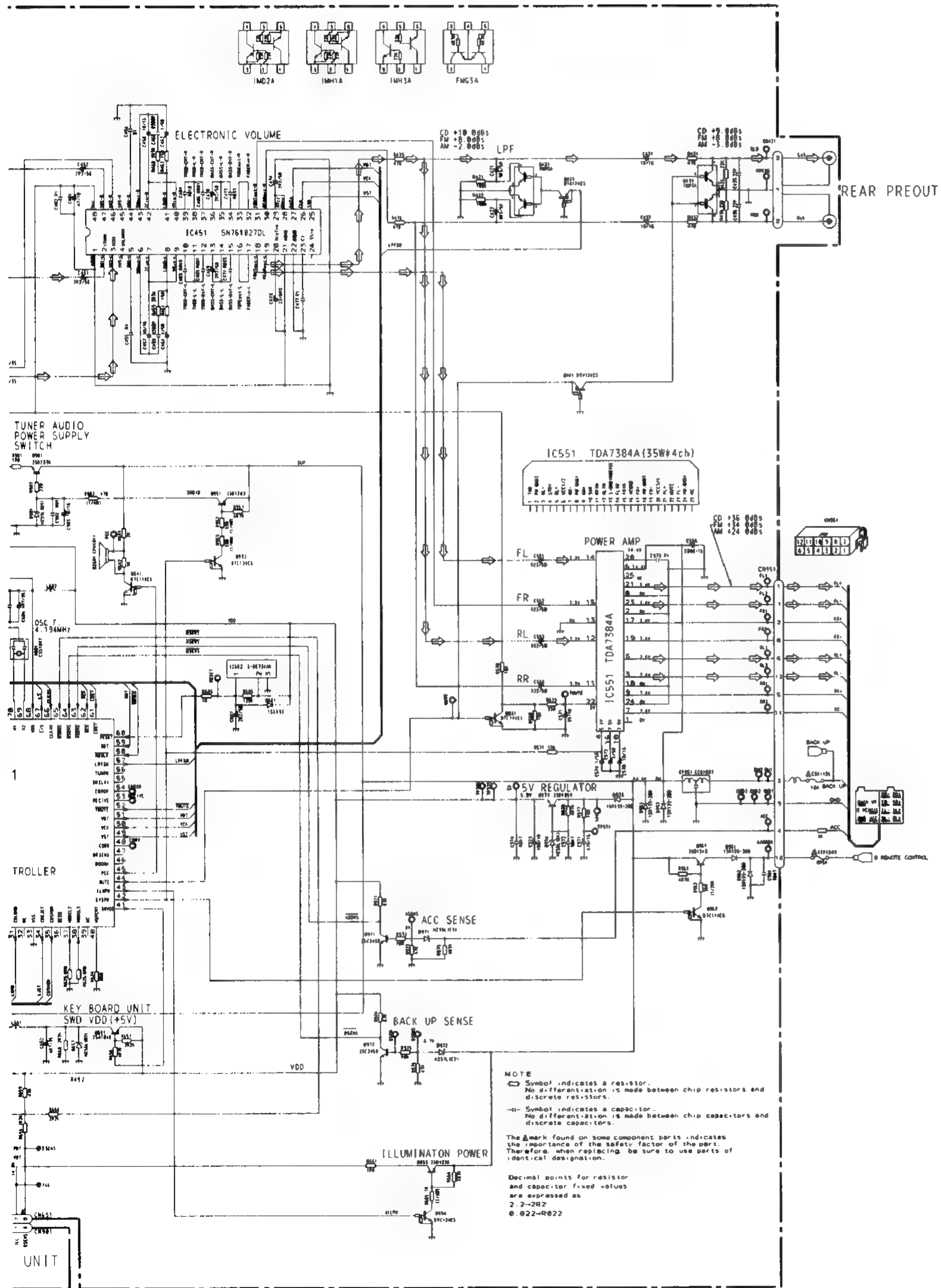
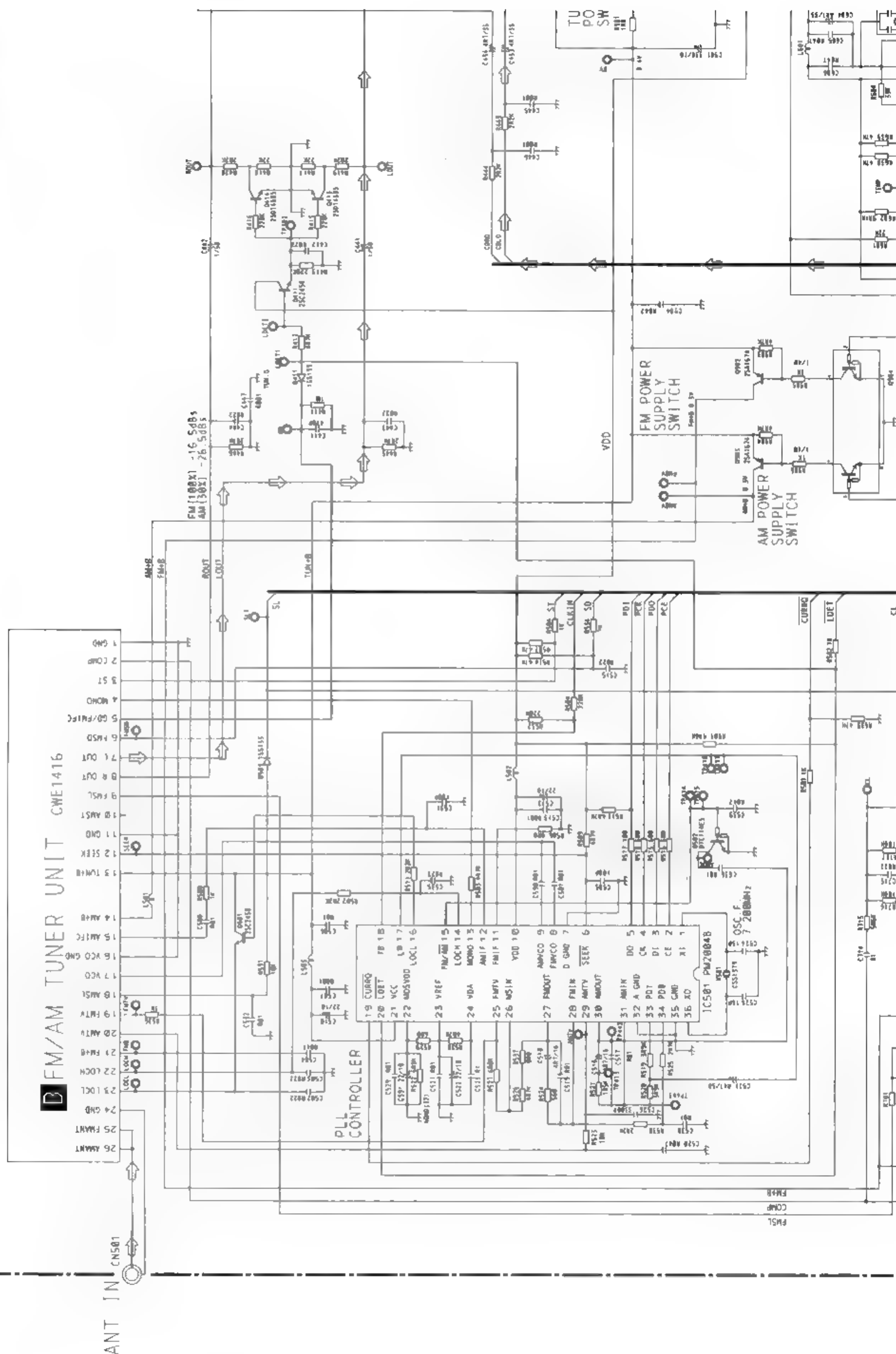


Fig. 8

ANT IN CNS





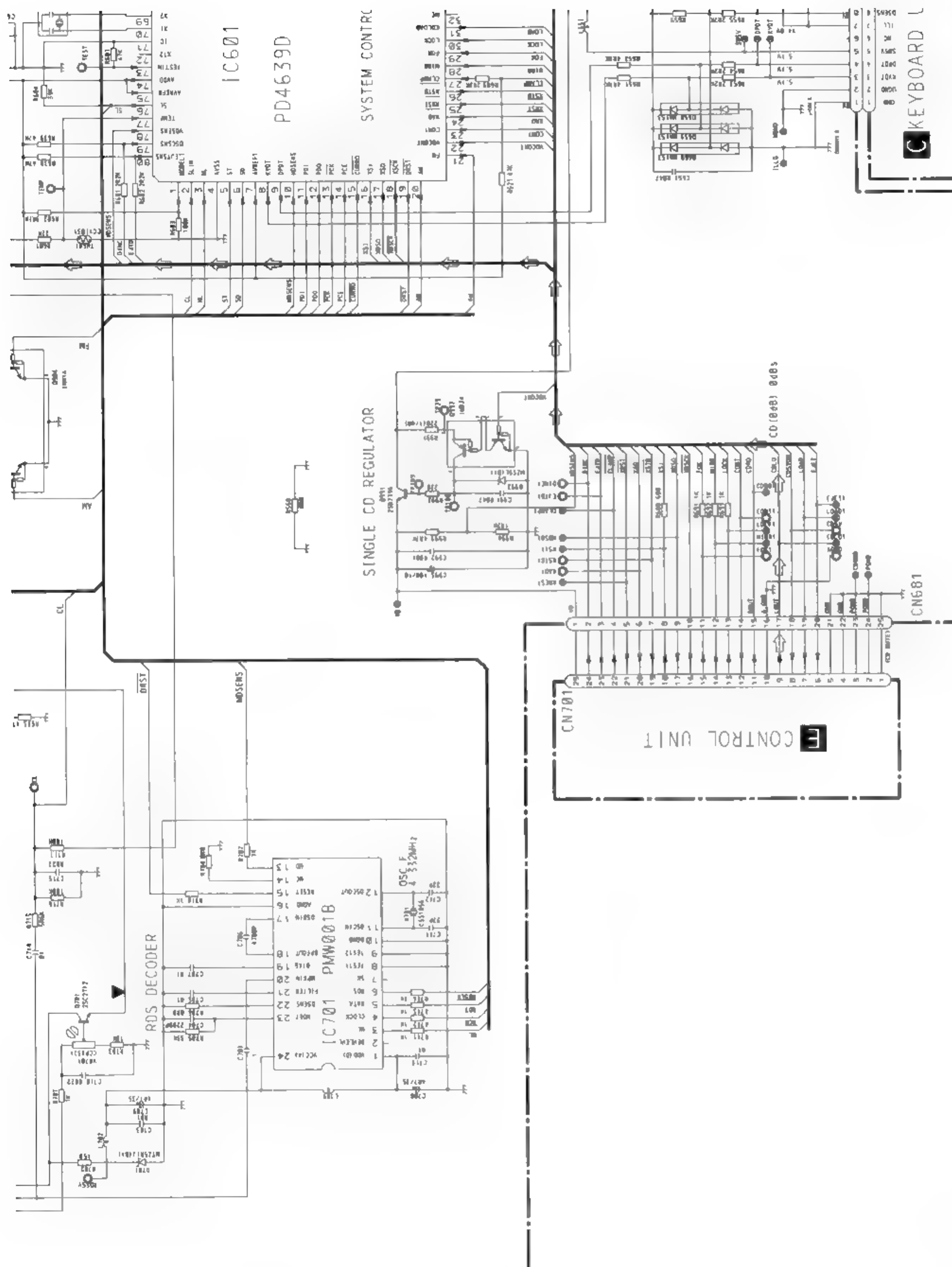
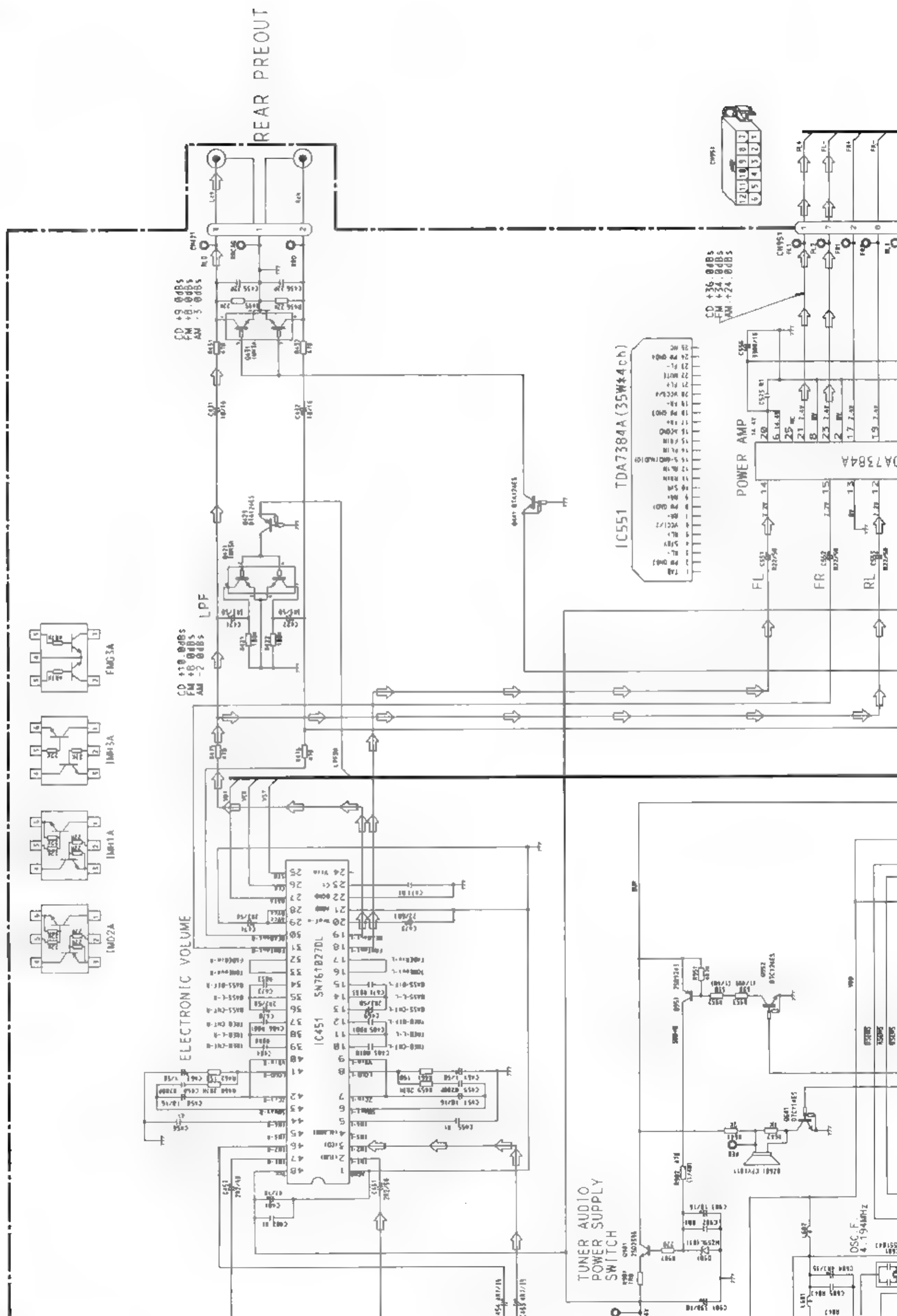


Fig. 9

A-b





A-a

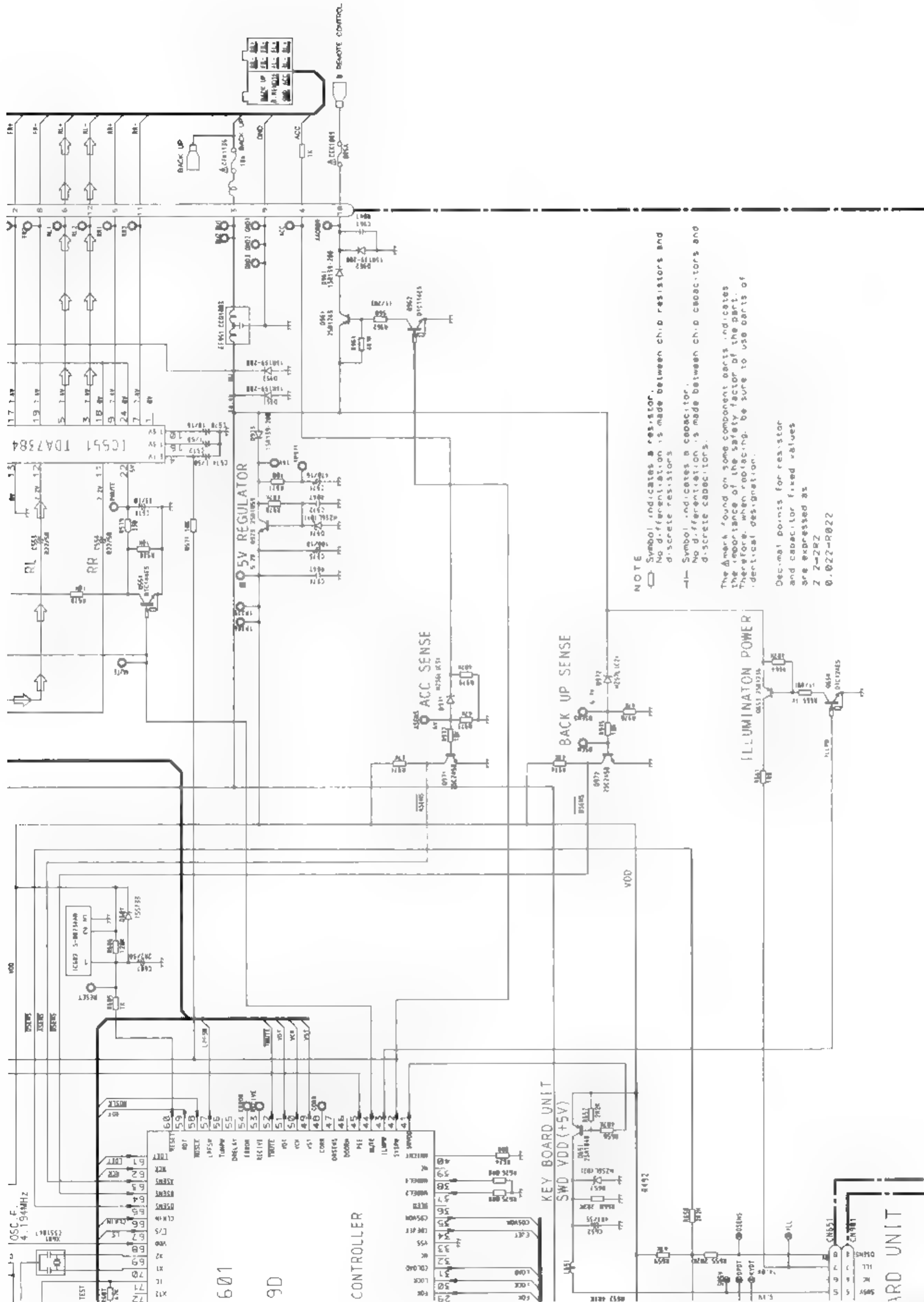
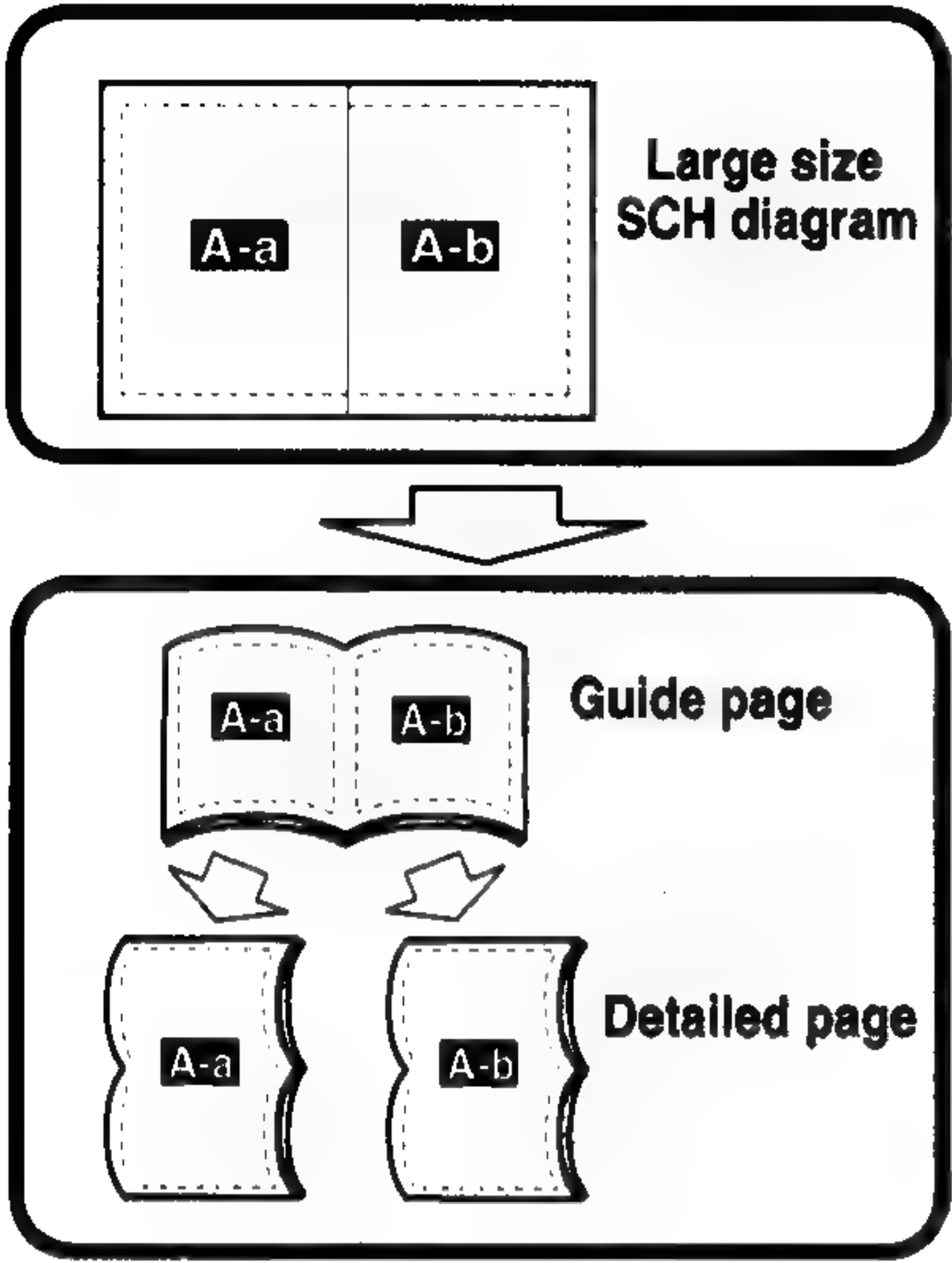


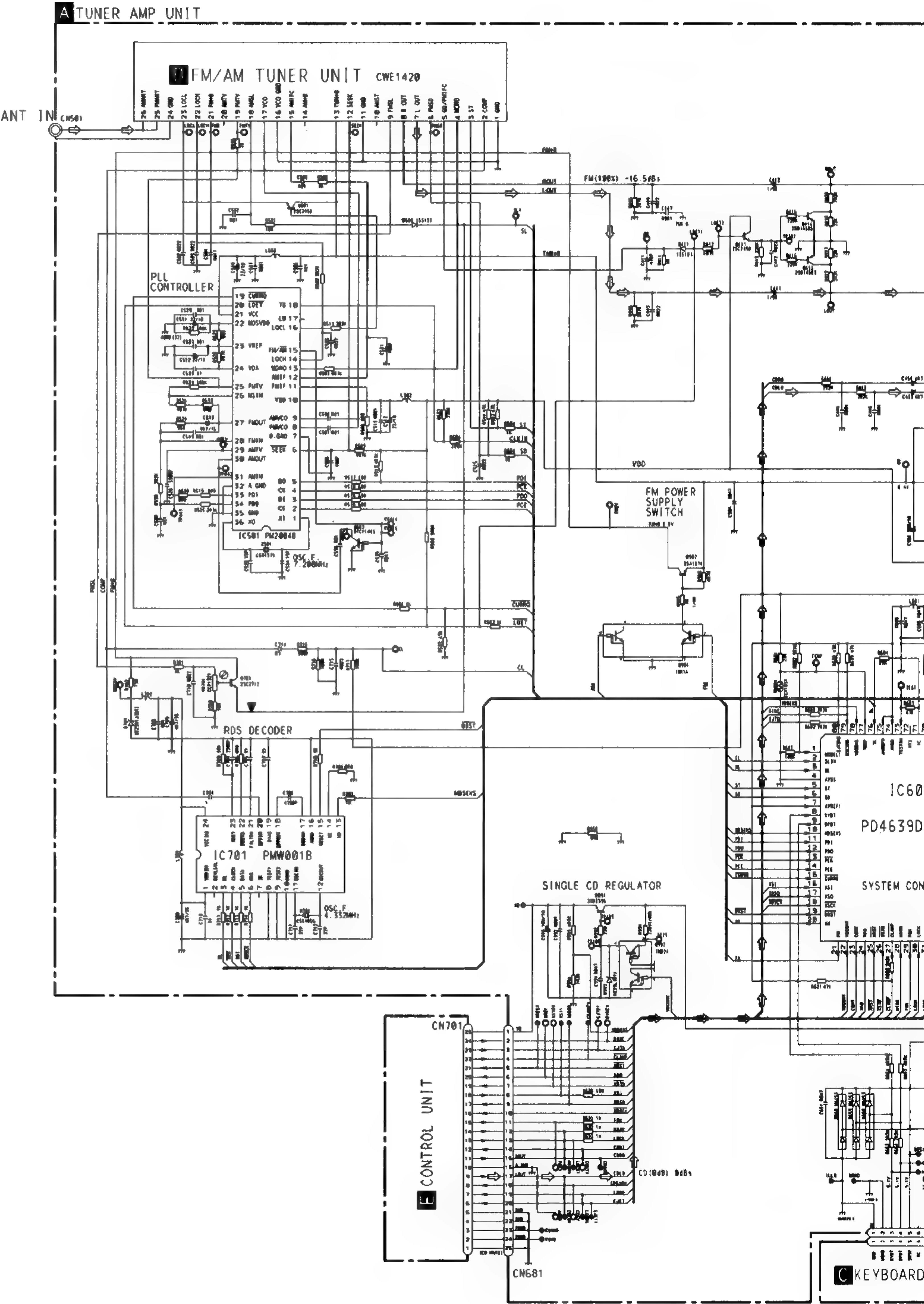
Fig. 10

A-b

3.3 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)  
(DEH-433R/X1M/GR)



A-a





A-b

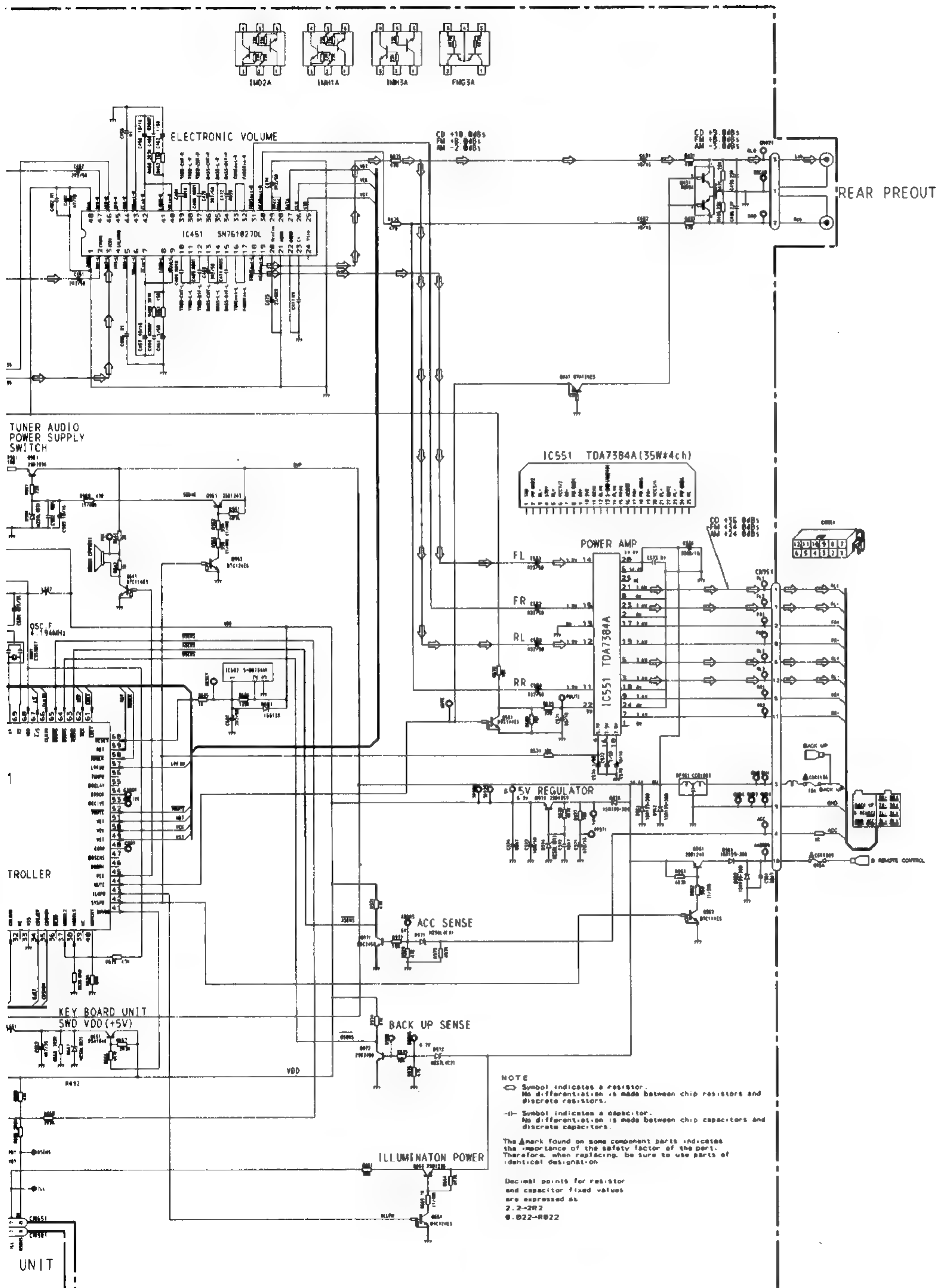
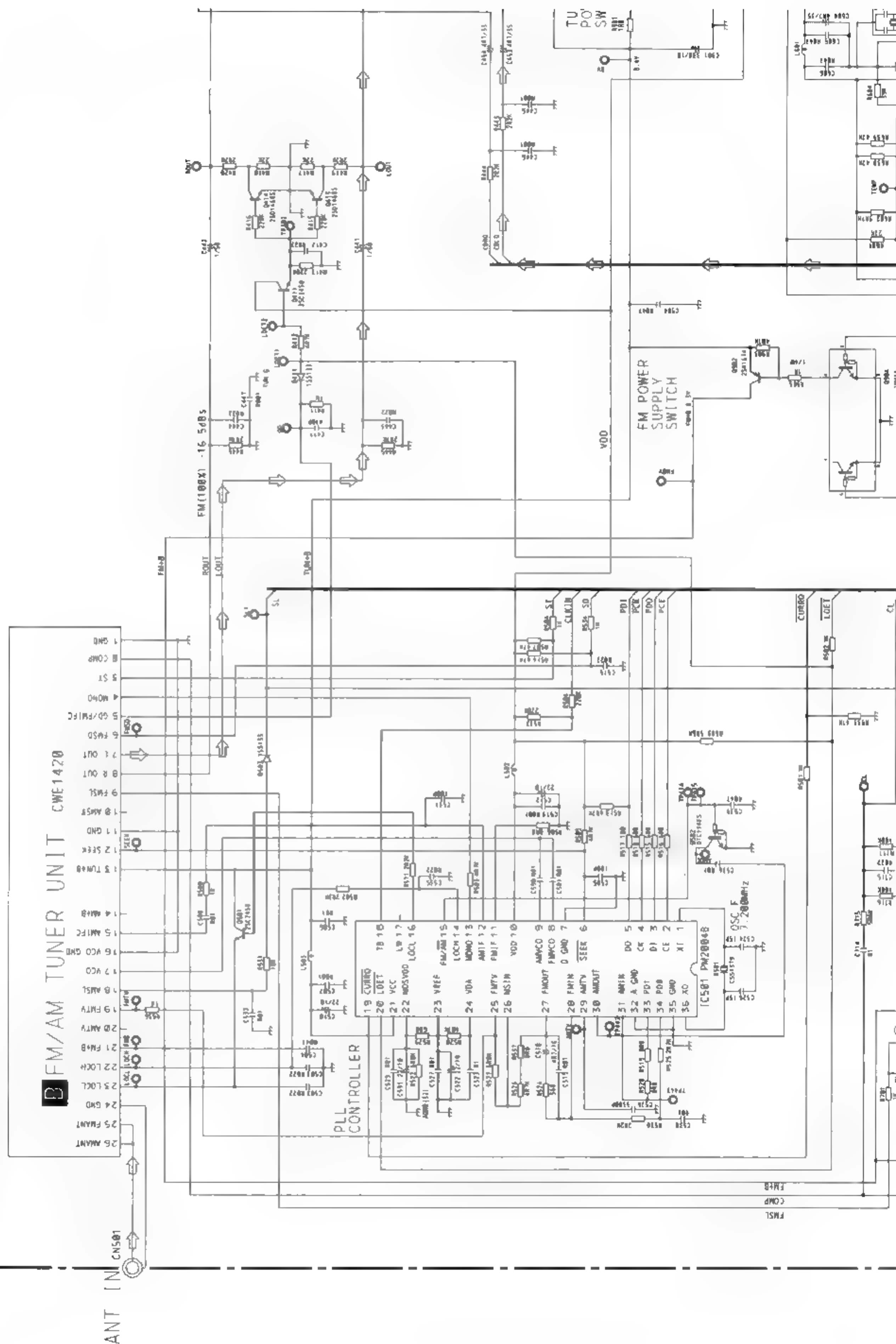


Fig. 11

3 FM/AM TUNER UNIT      CWE1420





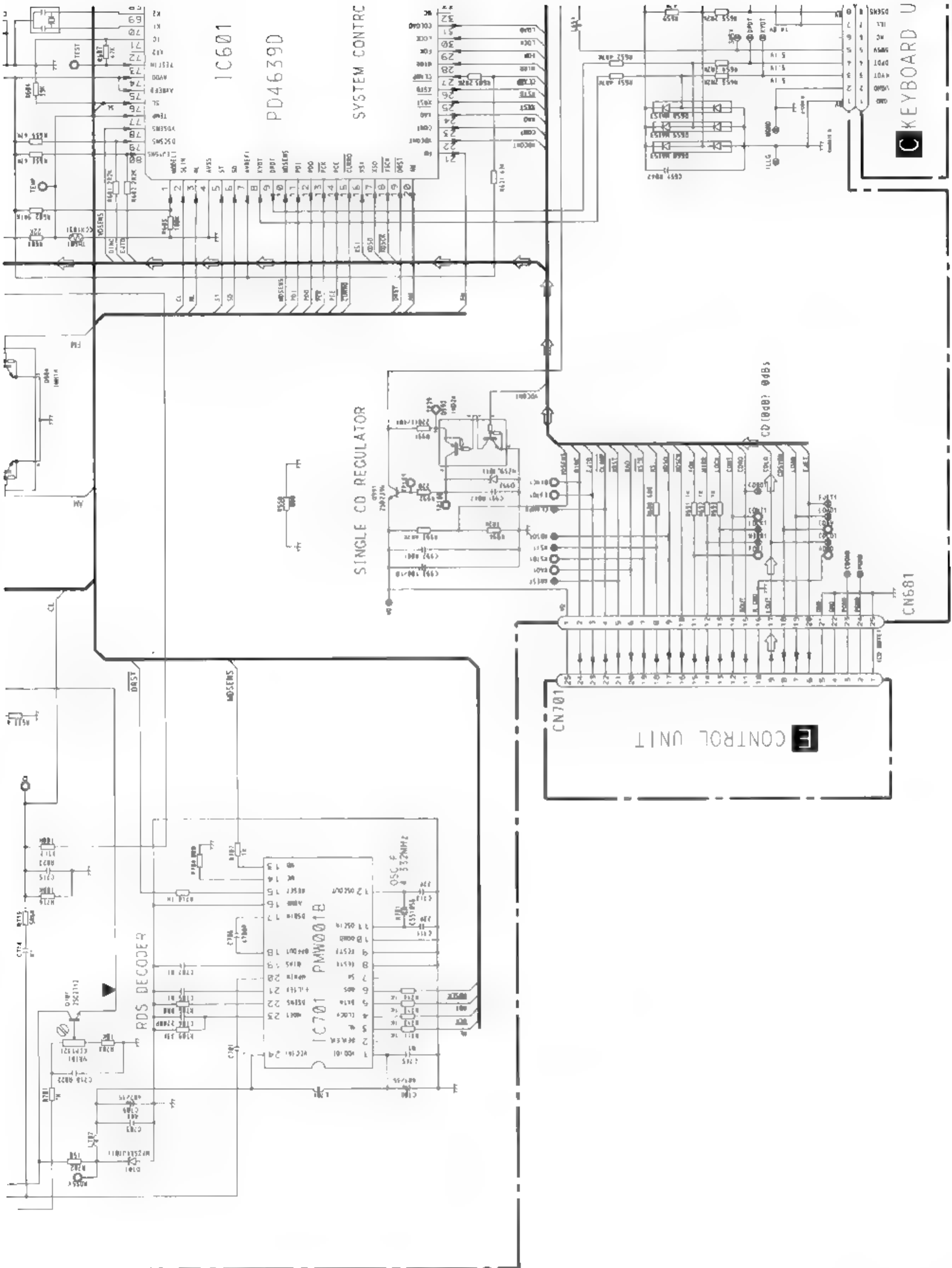
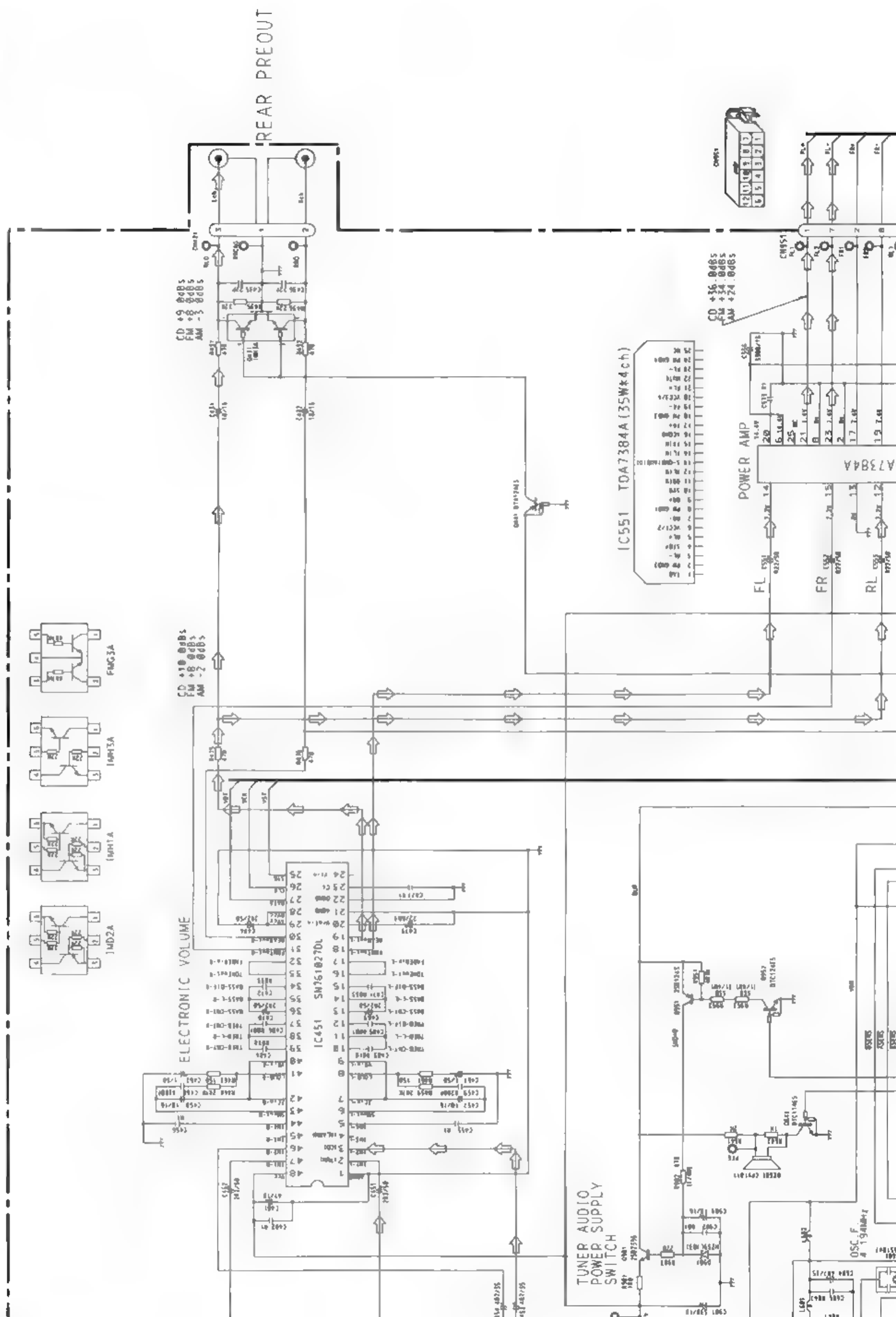
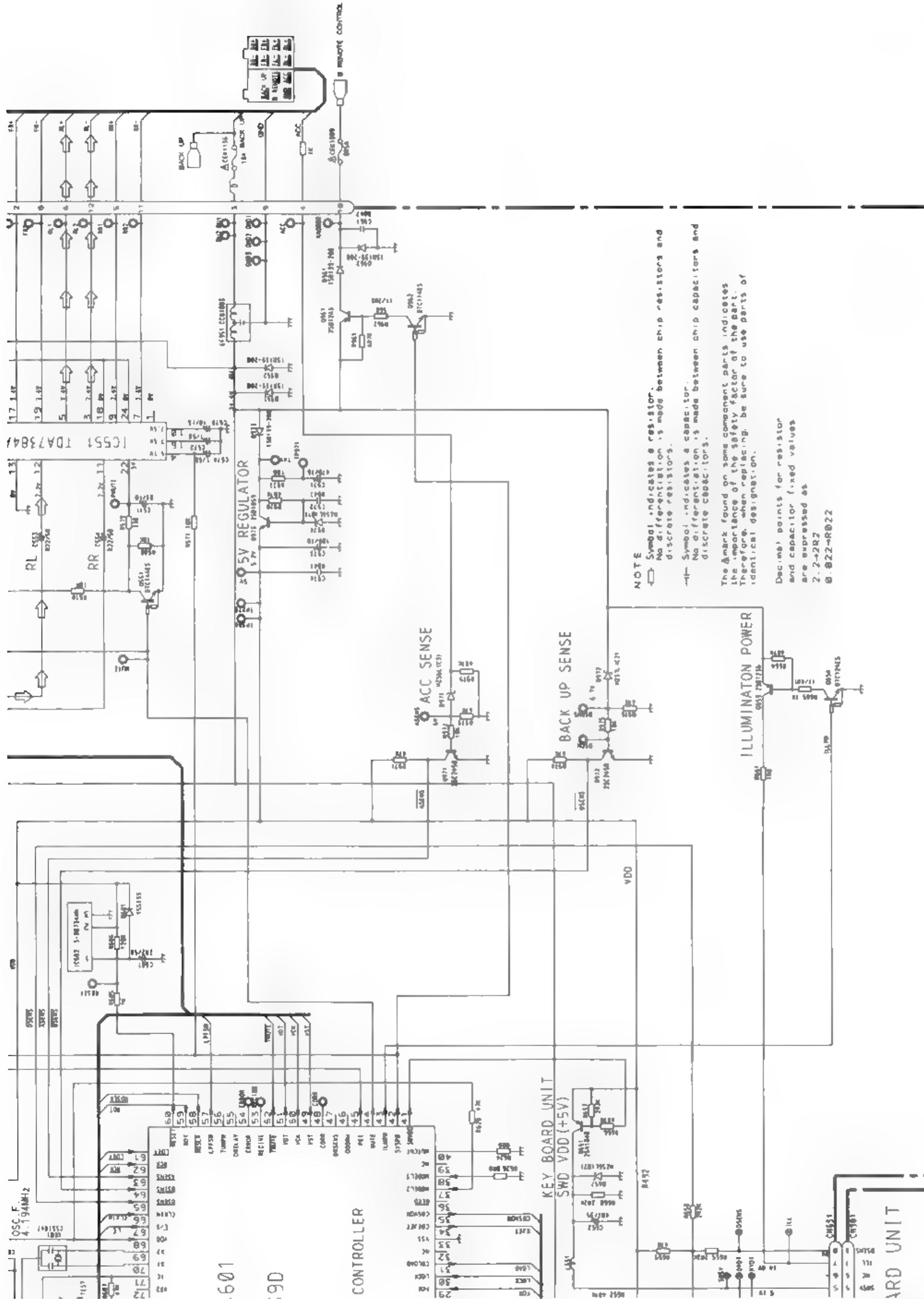


Fig. 12





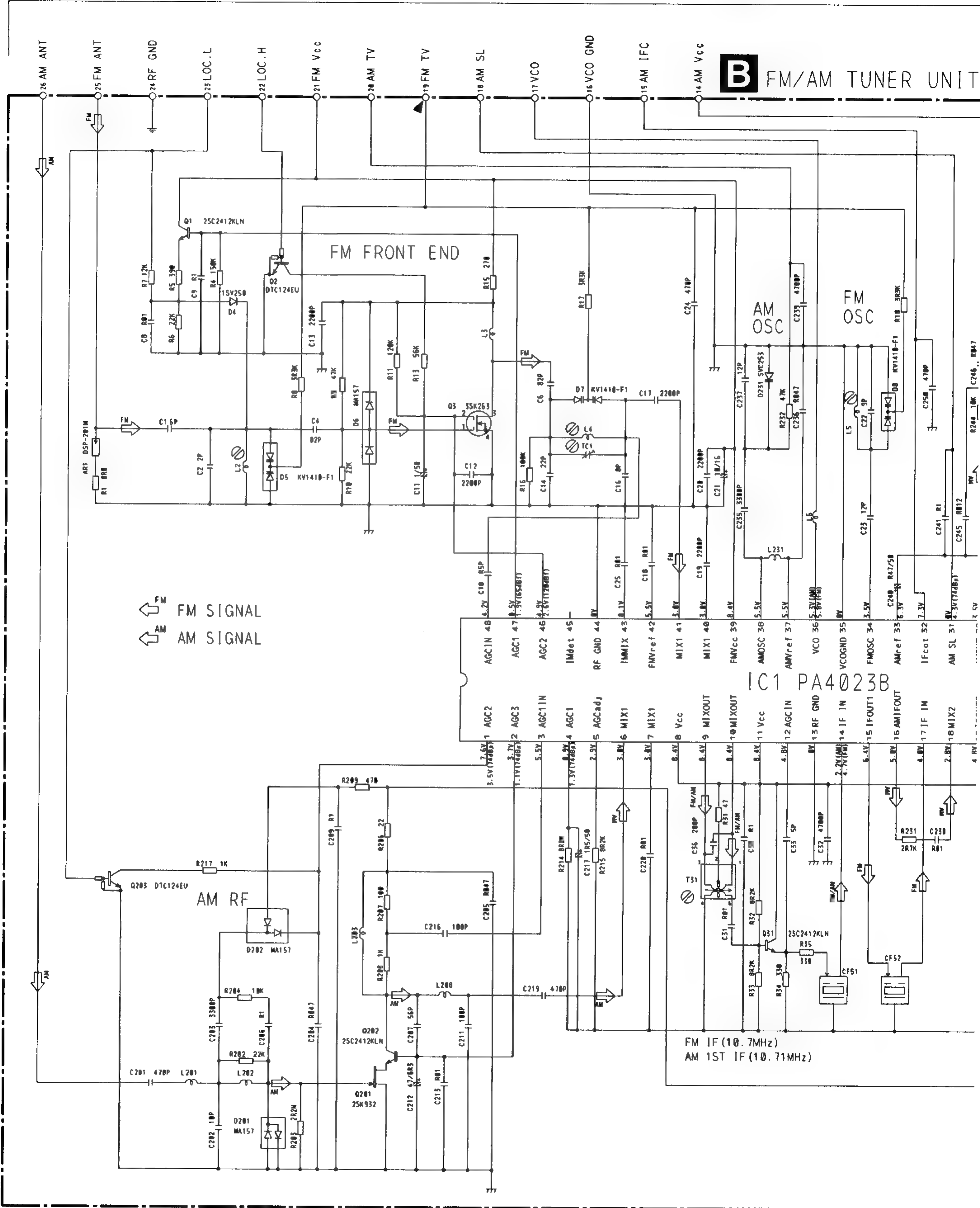


**Fig. 13**

3.4 FM/AM TUNER UNIT(DEH-435R/X1M/EW, 434R/EW)

A

B FM/AM TUNER UNIT



B

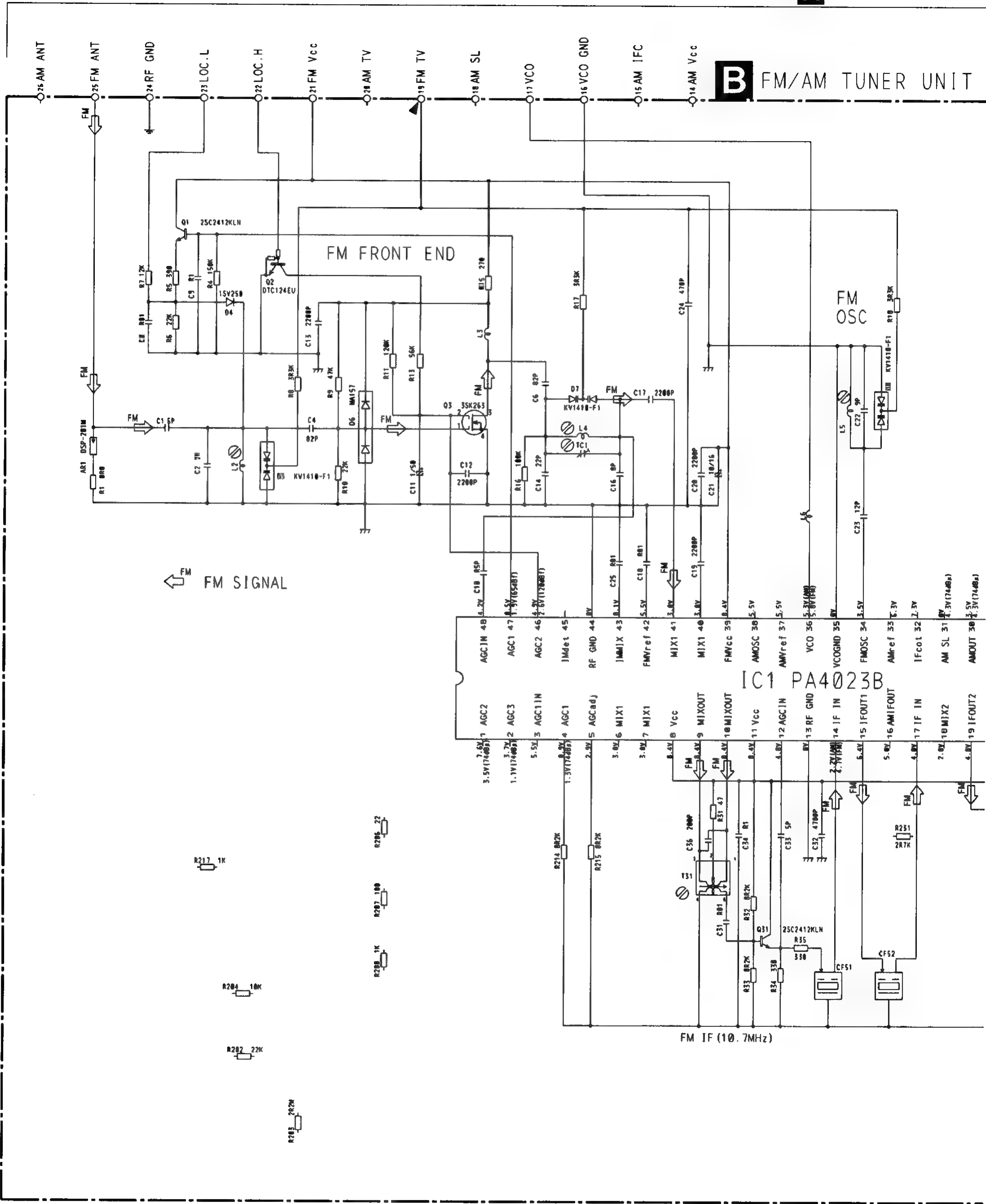


**B**

3.5 FM/AM TUNER UNIT(DEH-433R/GR)

A

B FM/AM TUNER UNIT





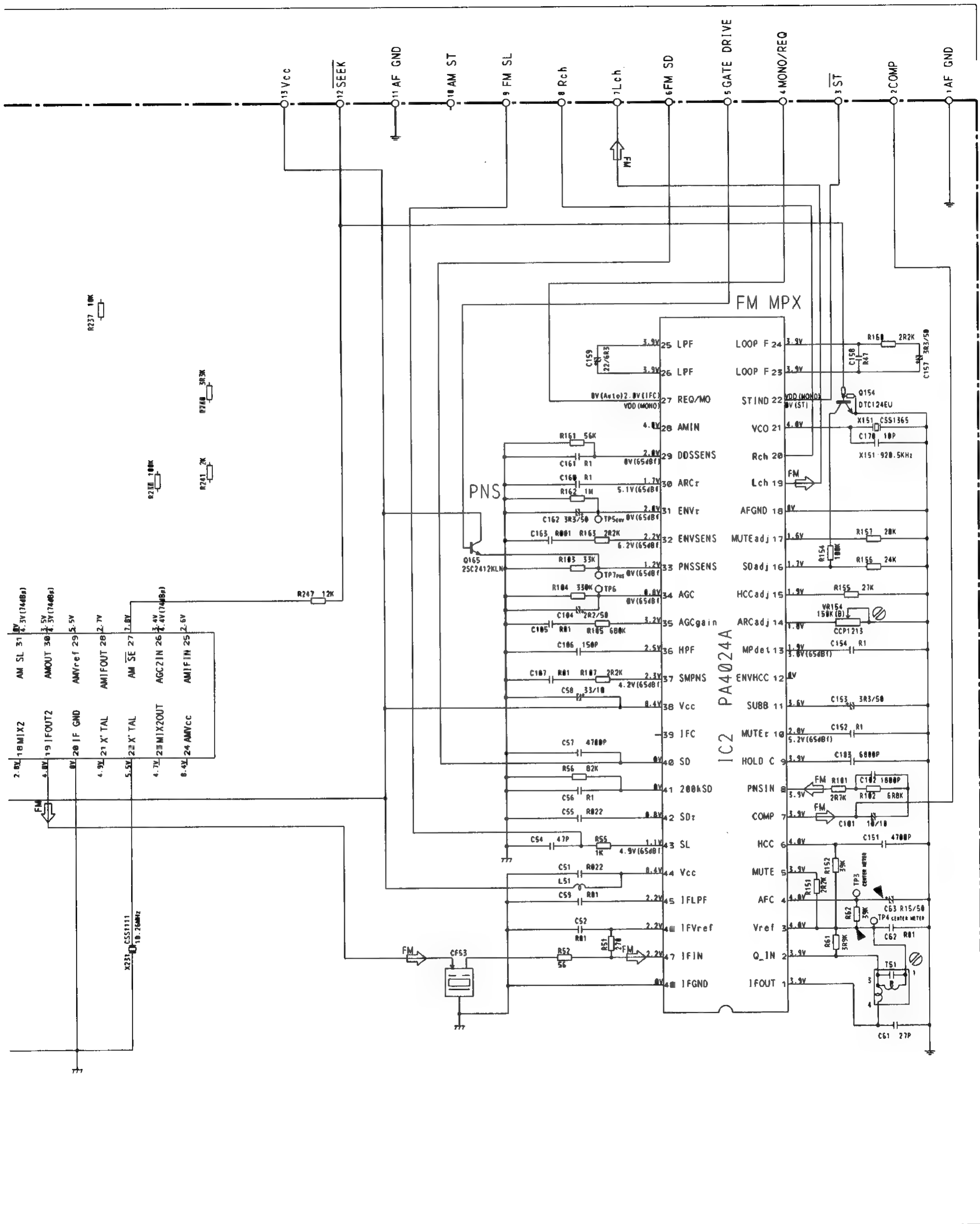
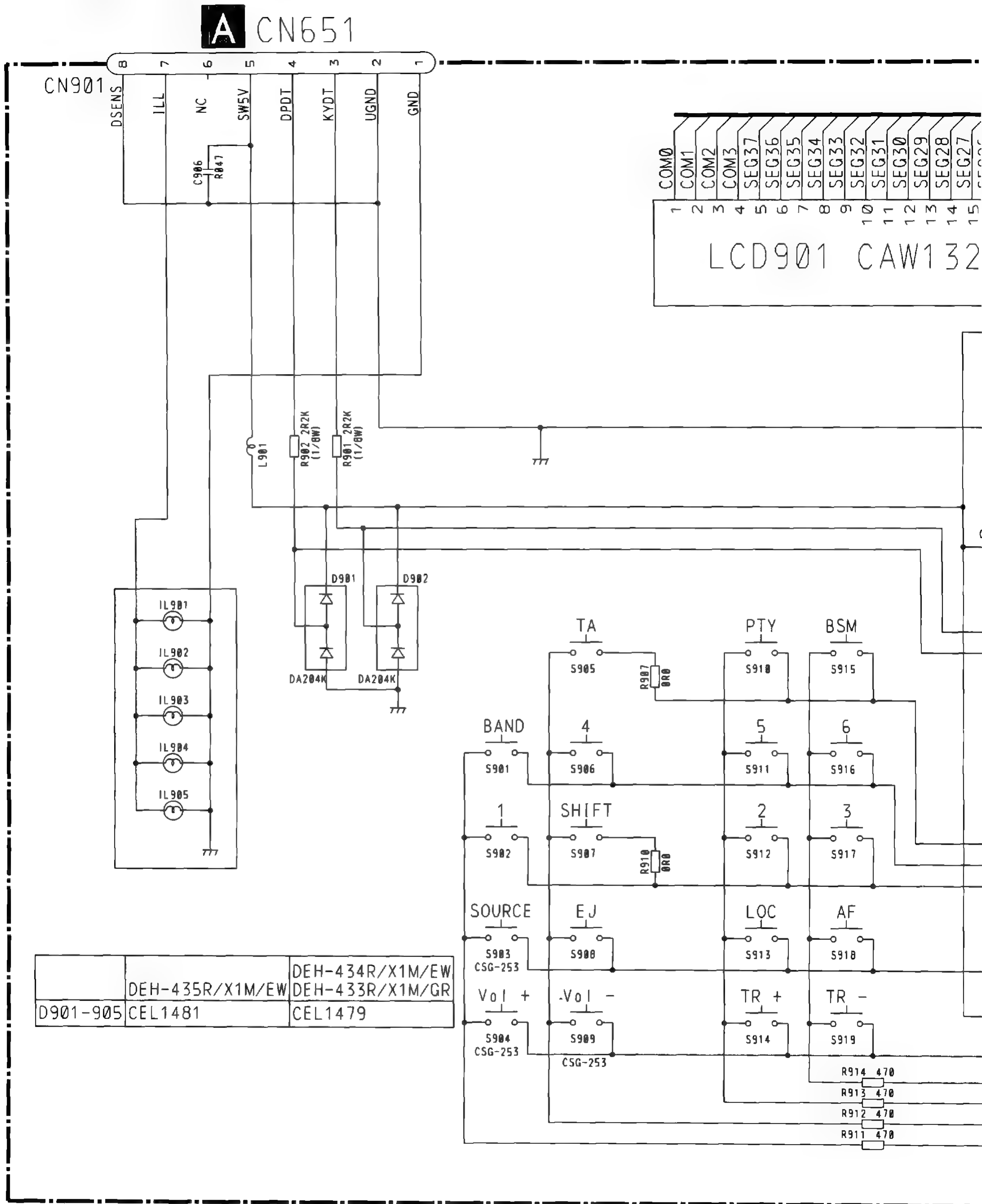


Fig. 15

3.6 KEYBOARD UNIT





C KEYBOARD UNIT

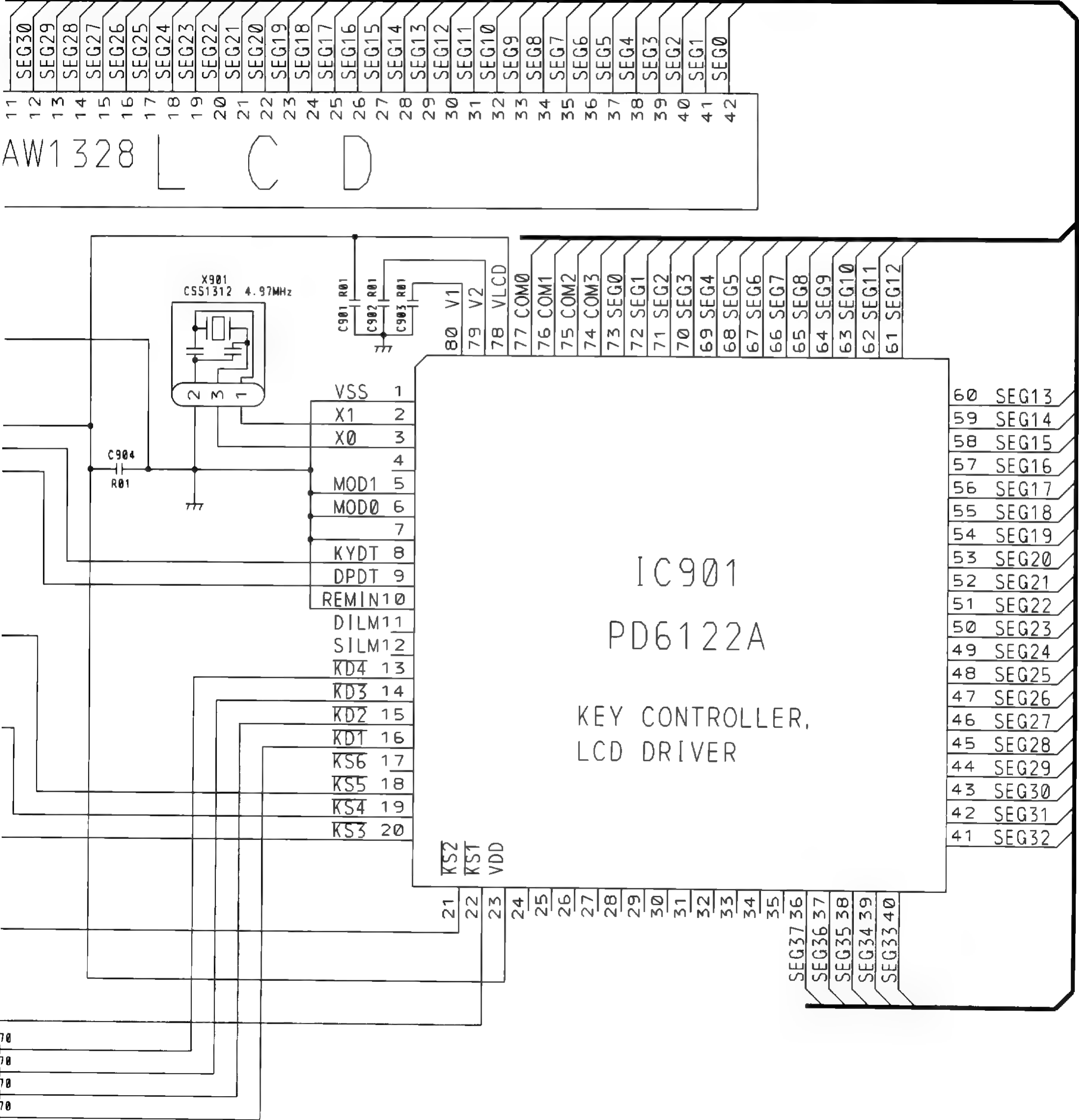


Fig. 16

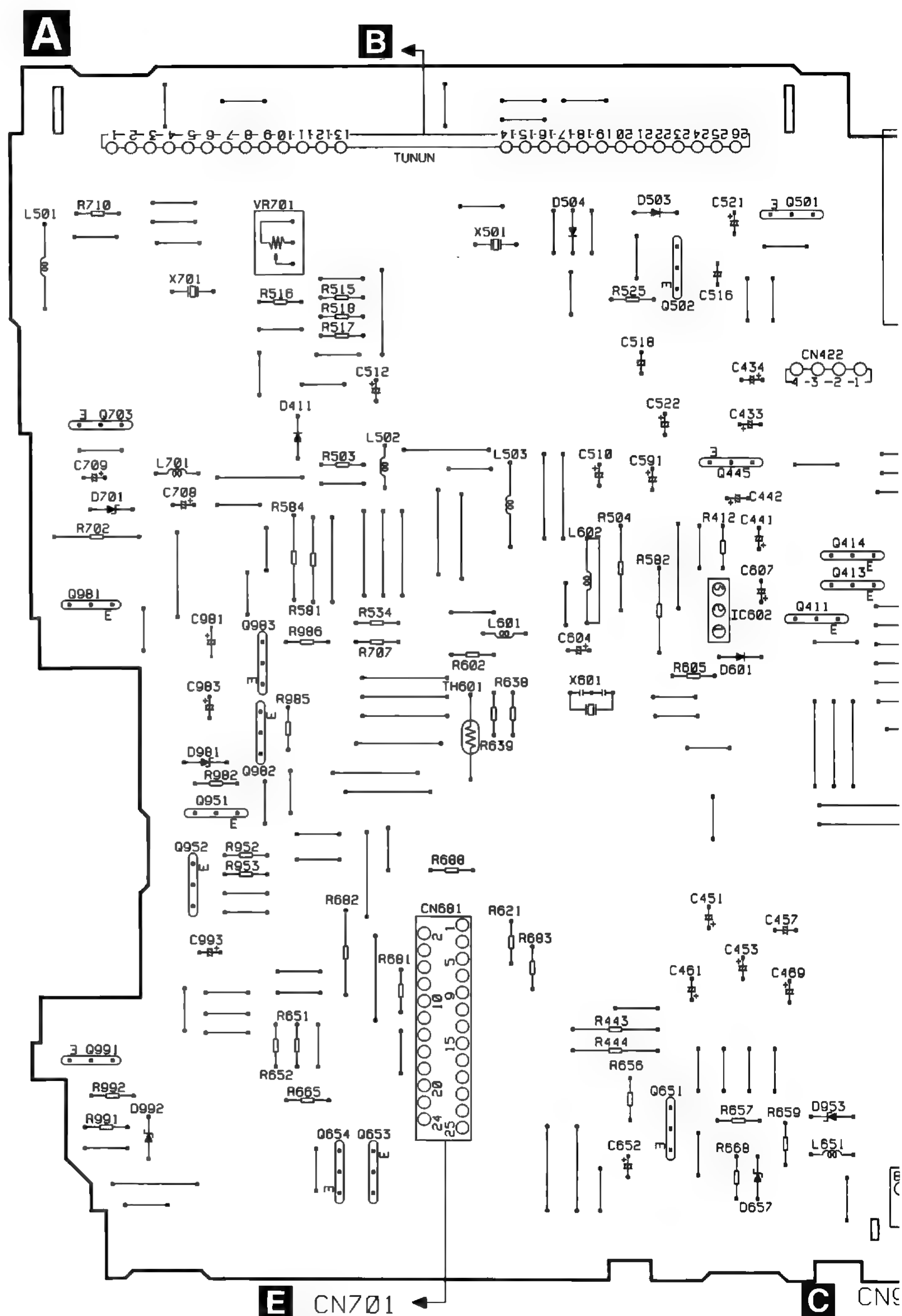
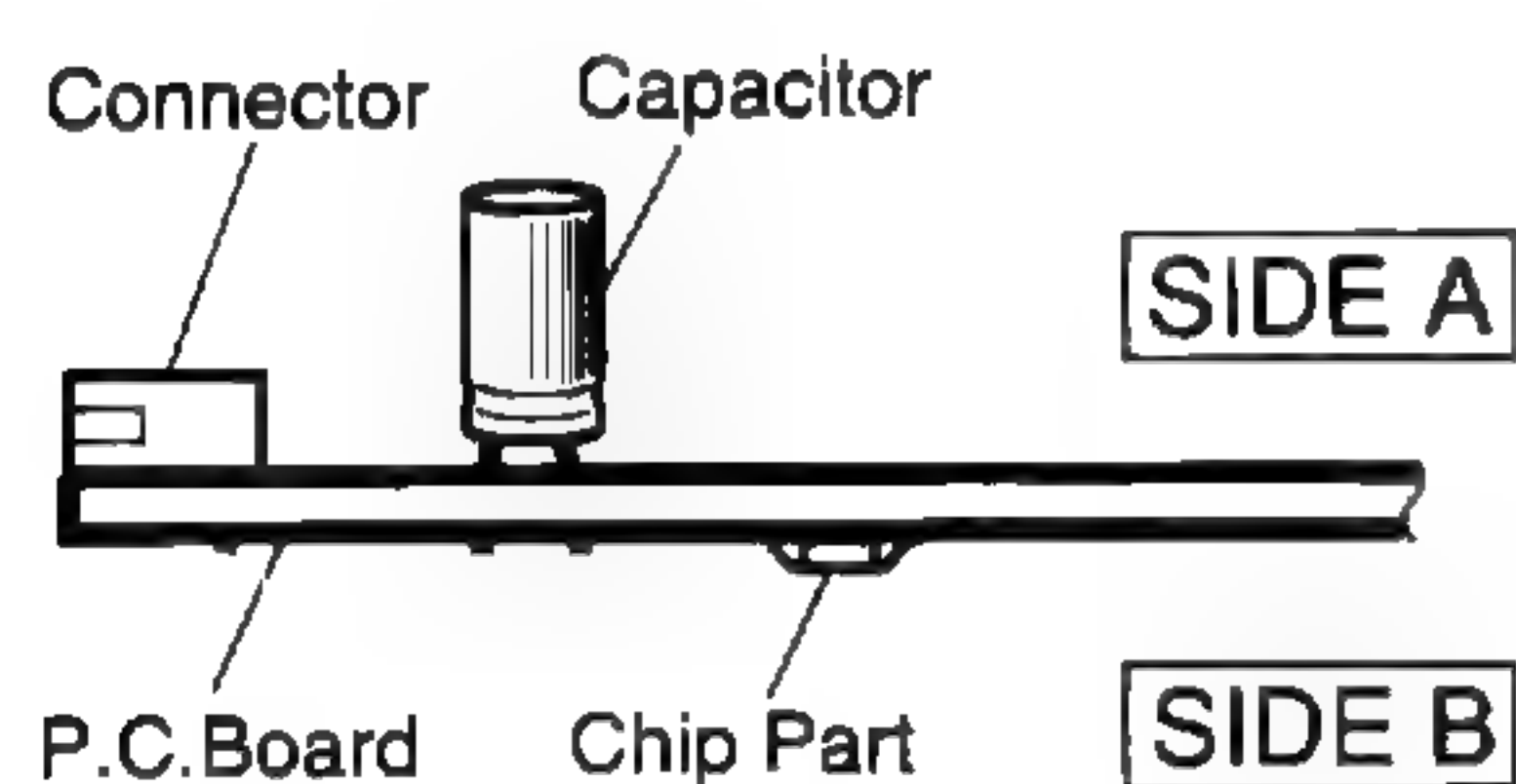
#### 4. PCB CONNECTION DIAGRAM

## 4.1 TUNER AMP UNIT

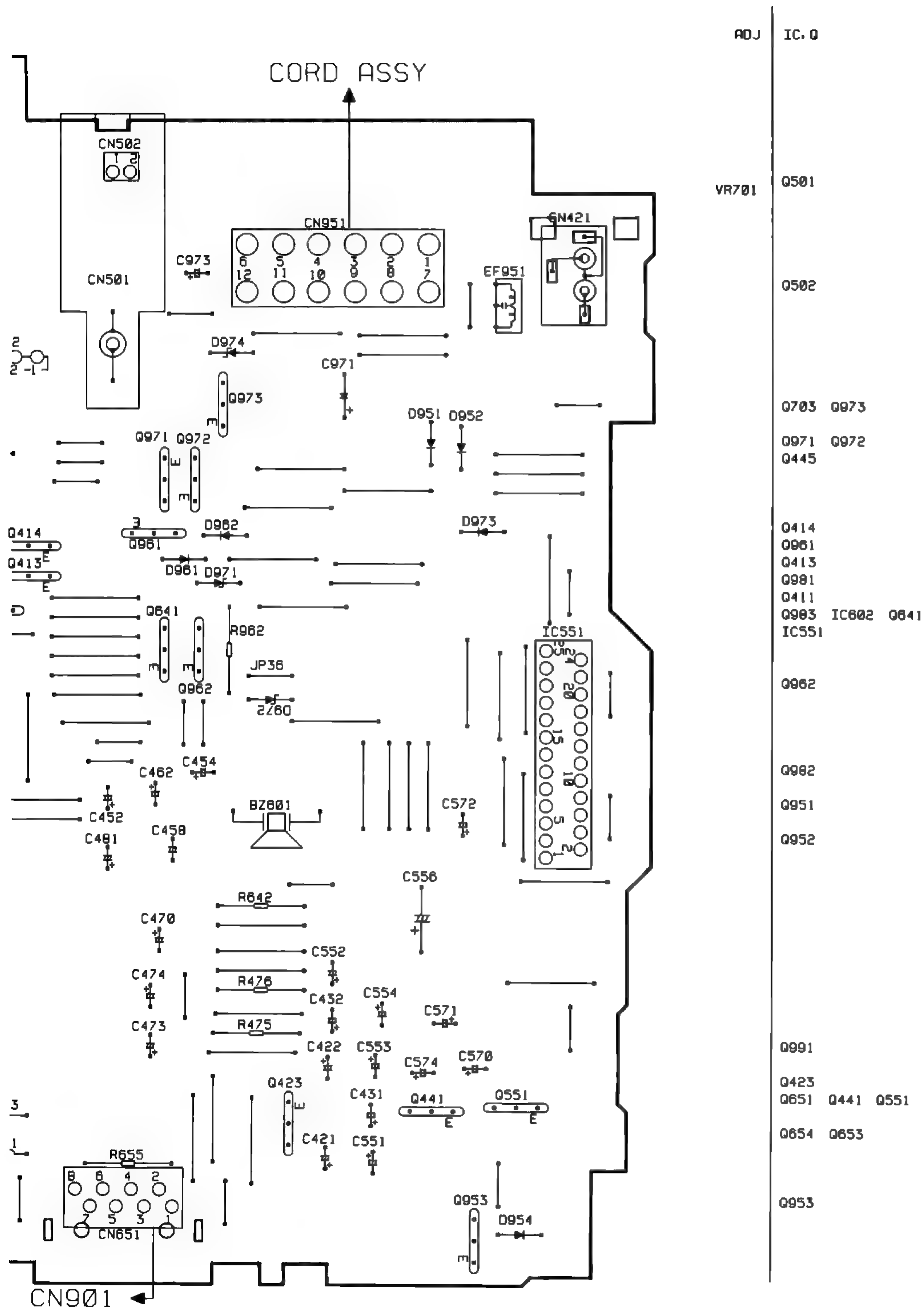
## NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.  
For further information for respective destinations, be sure to check with the schematic diagram.

## 2. Viewpoint of PCB diagrams

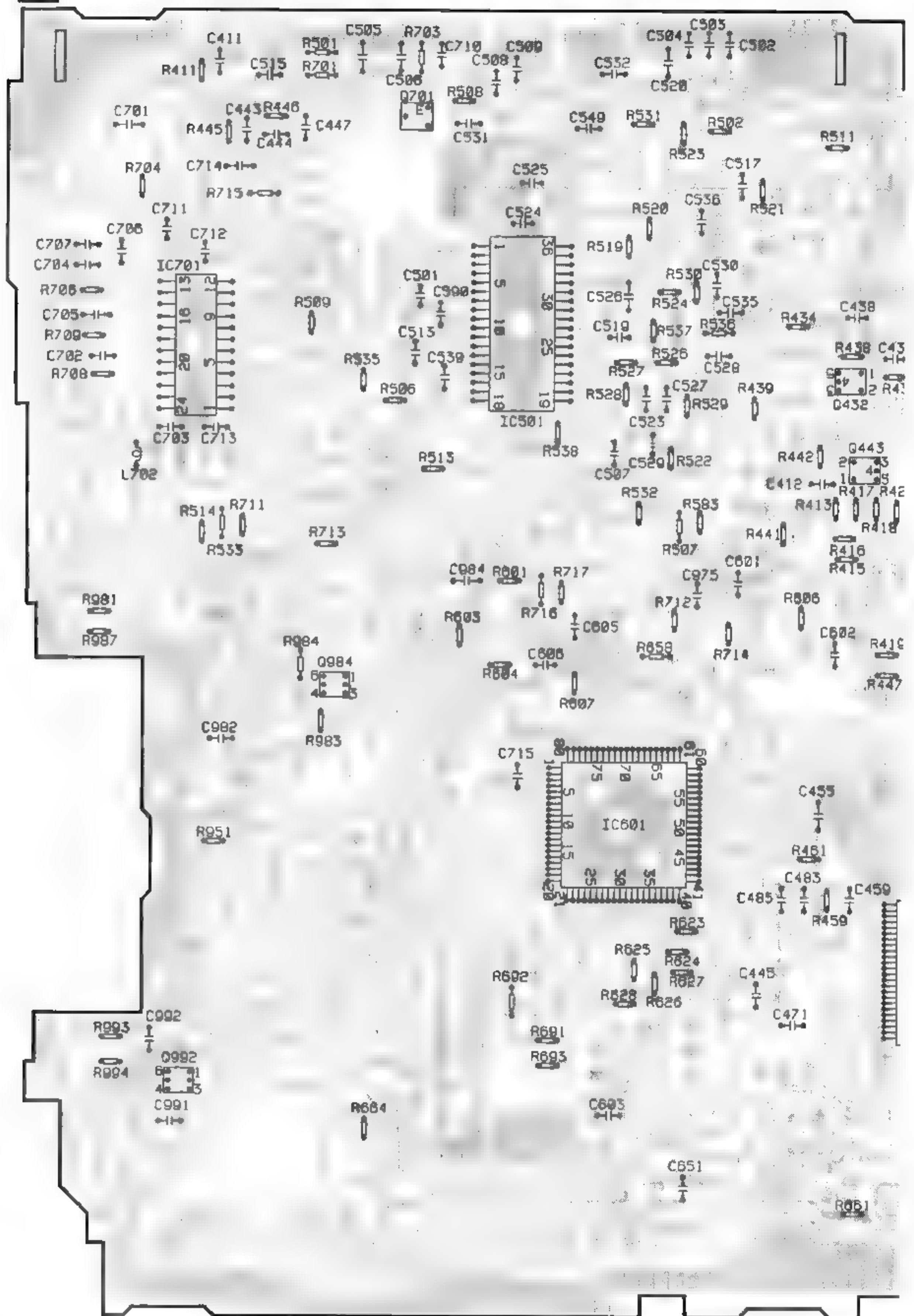




**SIDE A**

**Fig. 17**

**A**

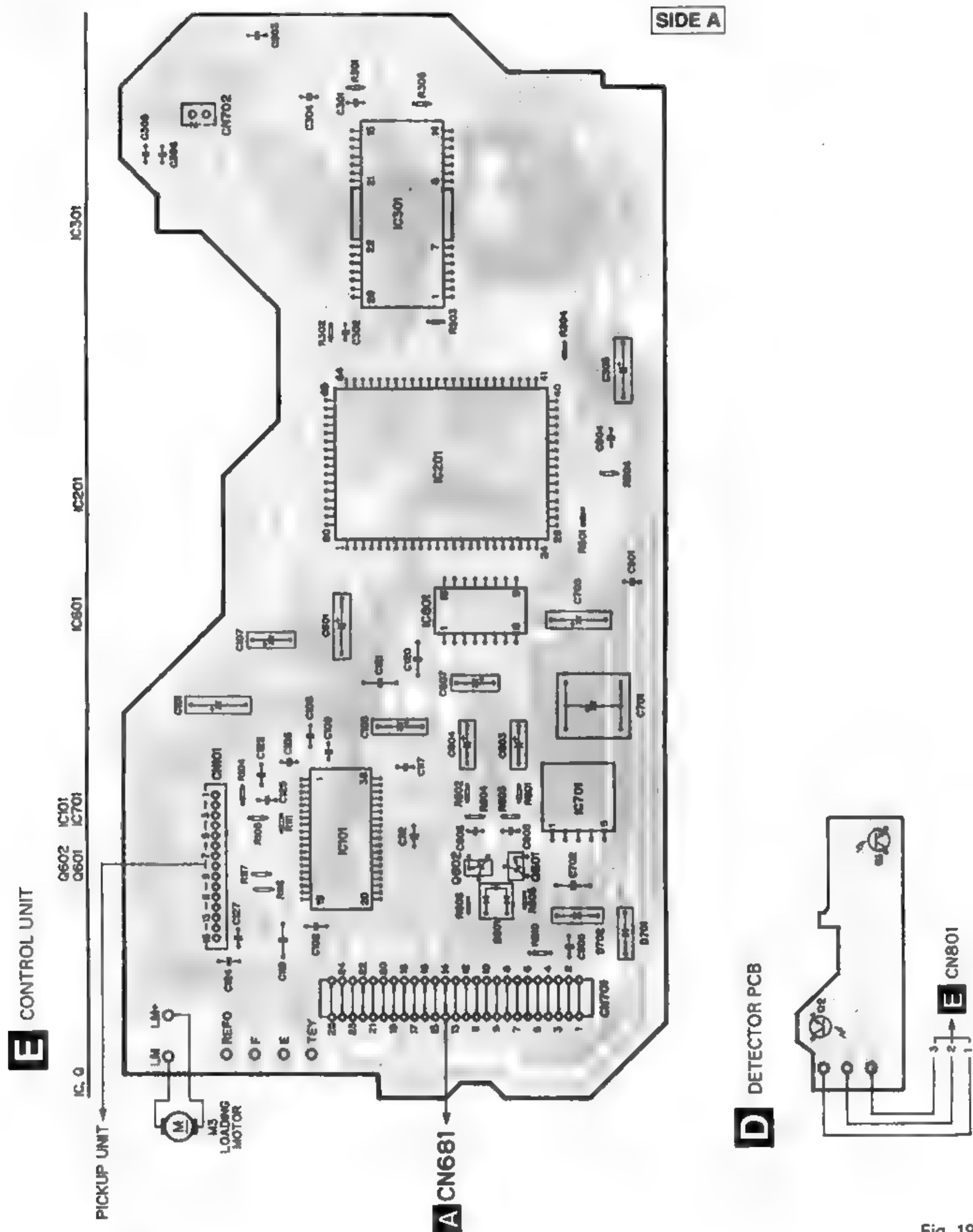


**A**





## 4.2 CONTROL UNIT, DETECTOR PCB



**Fig. 19**



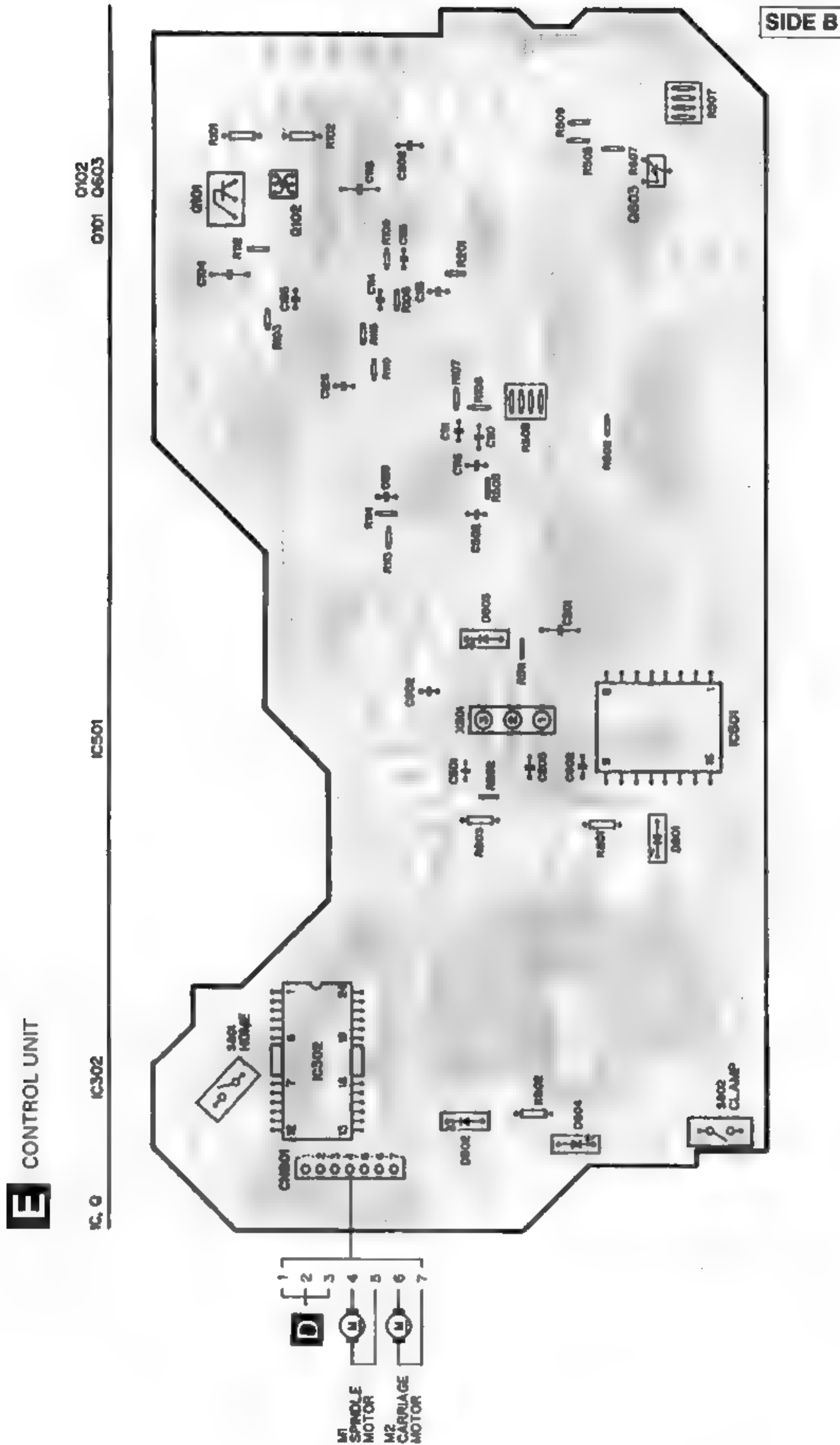


Fig. 20

4.3 KEYBOARD UNIT

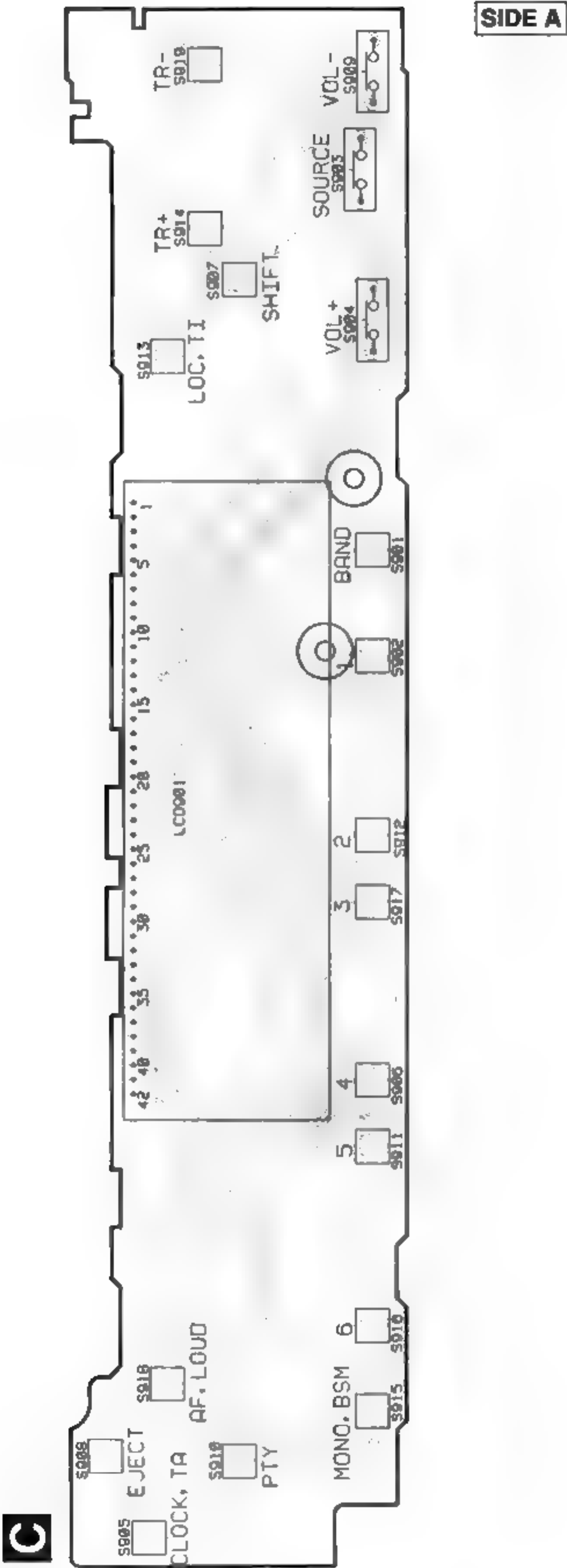


Fig. 21



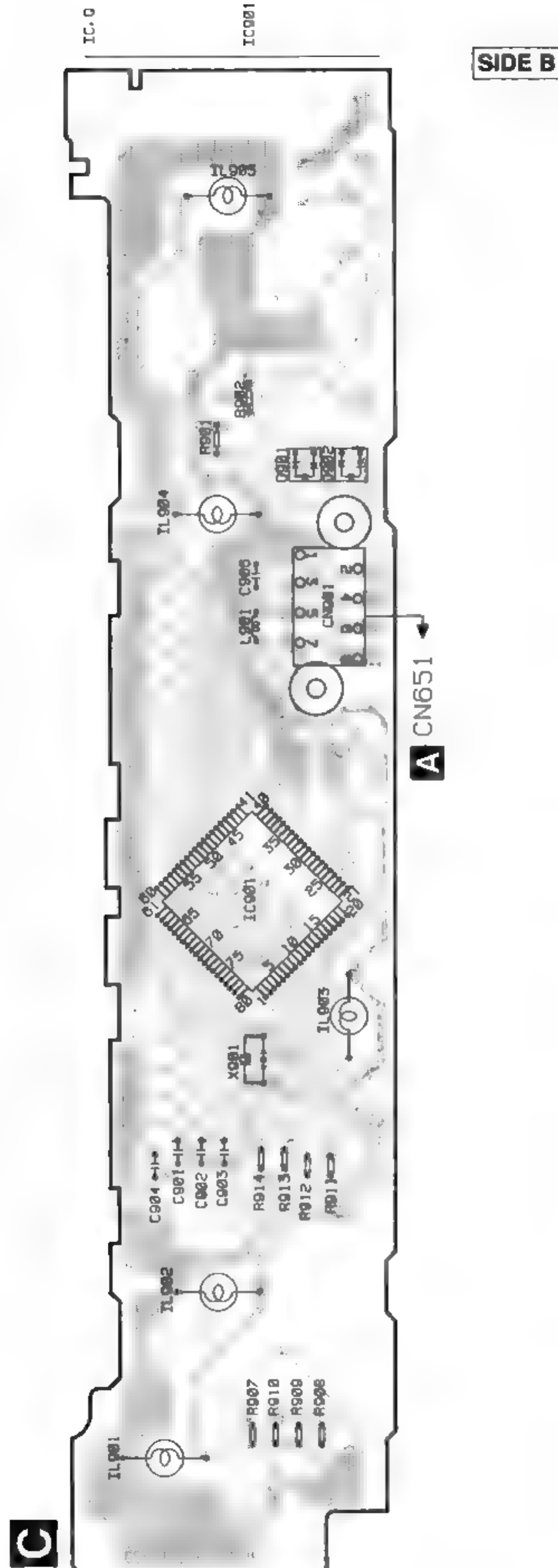


Fig. 22

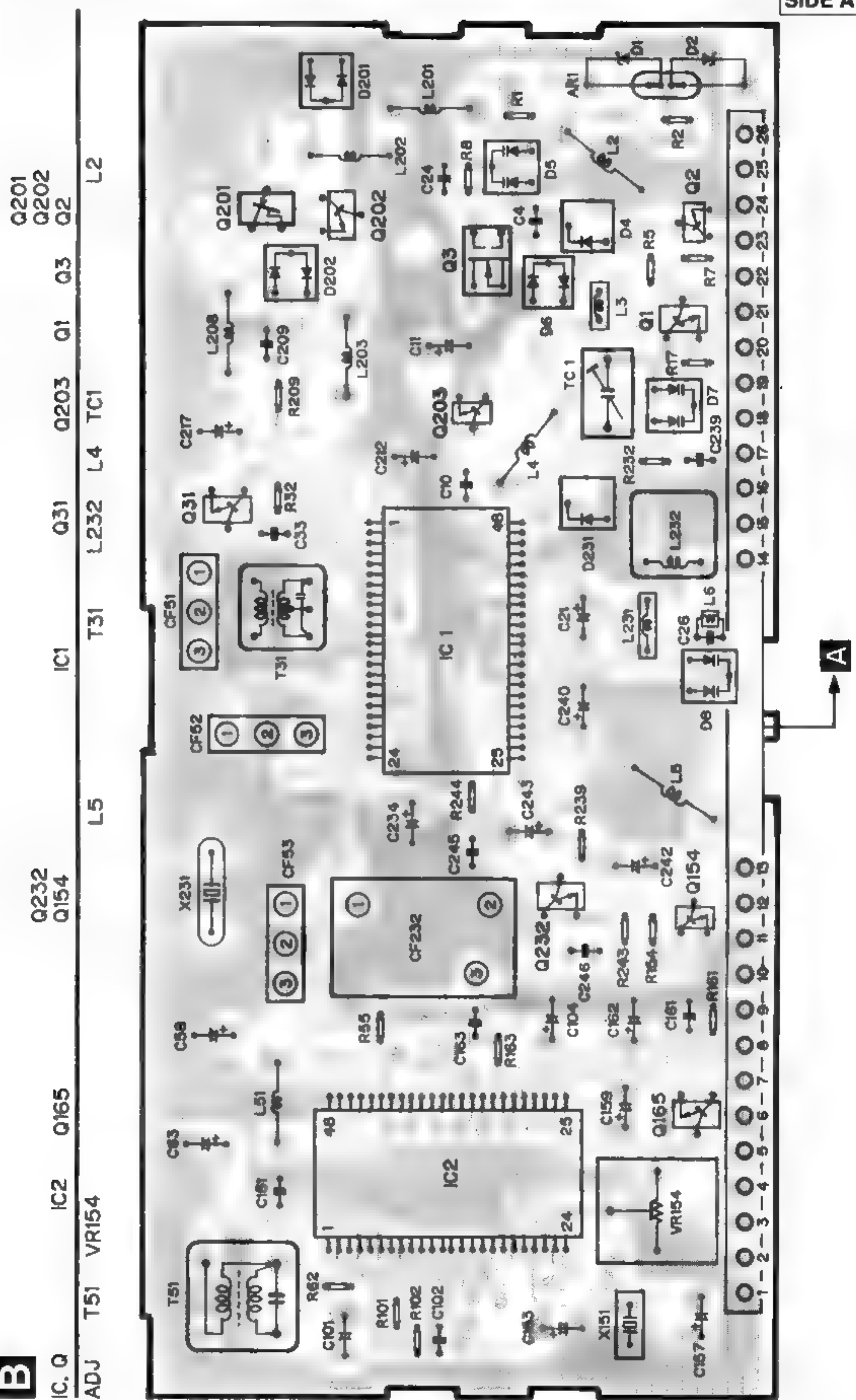
**B**

Fig. 23

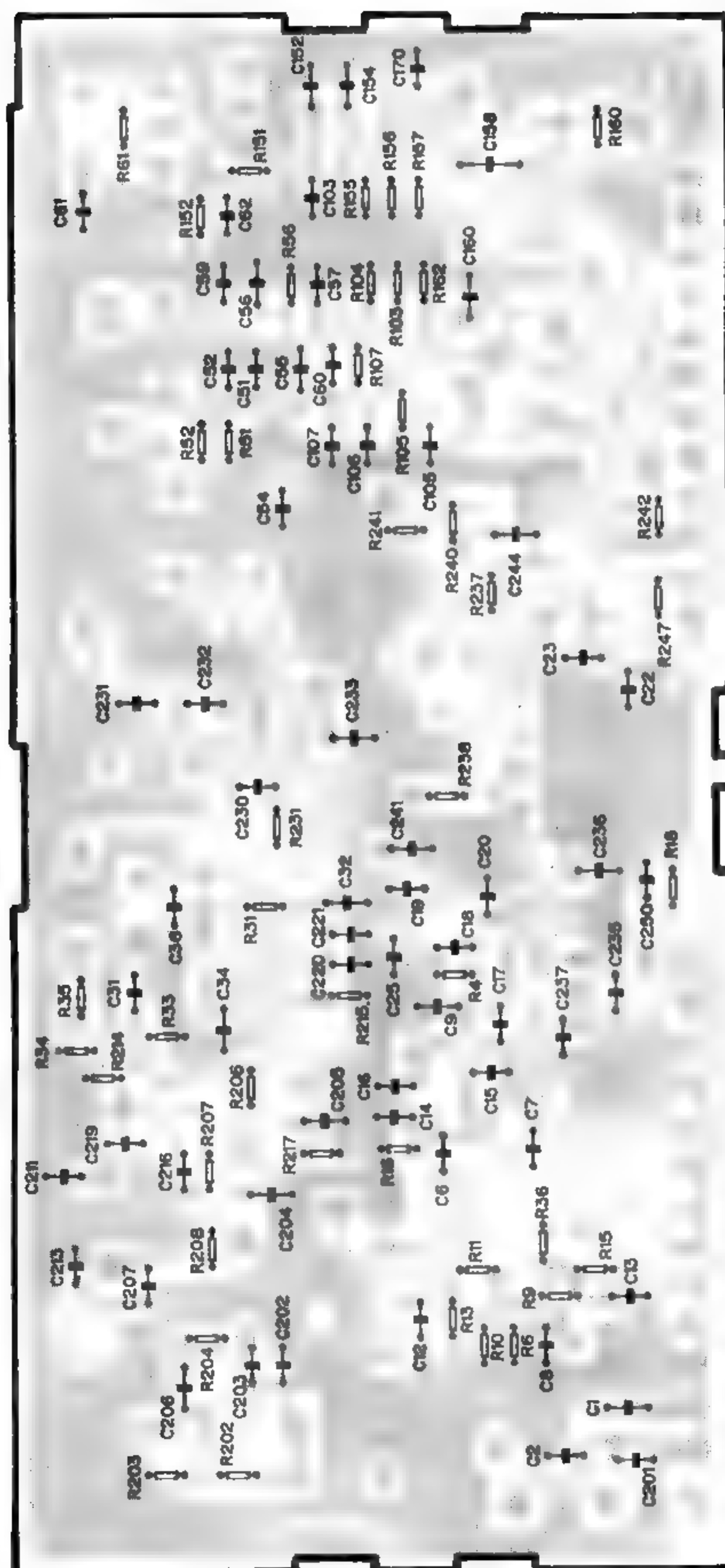
**SIDE B**

Fig. 24

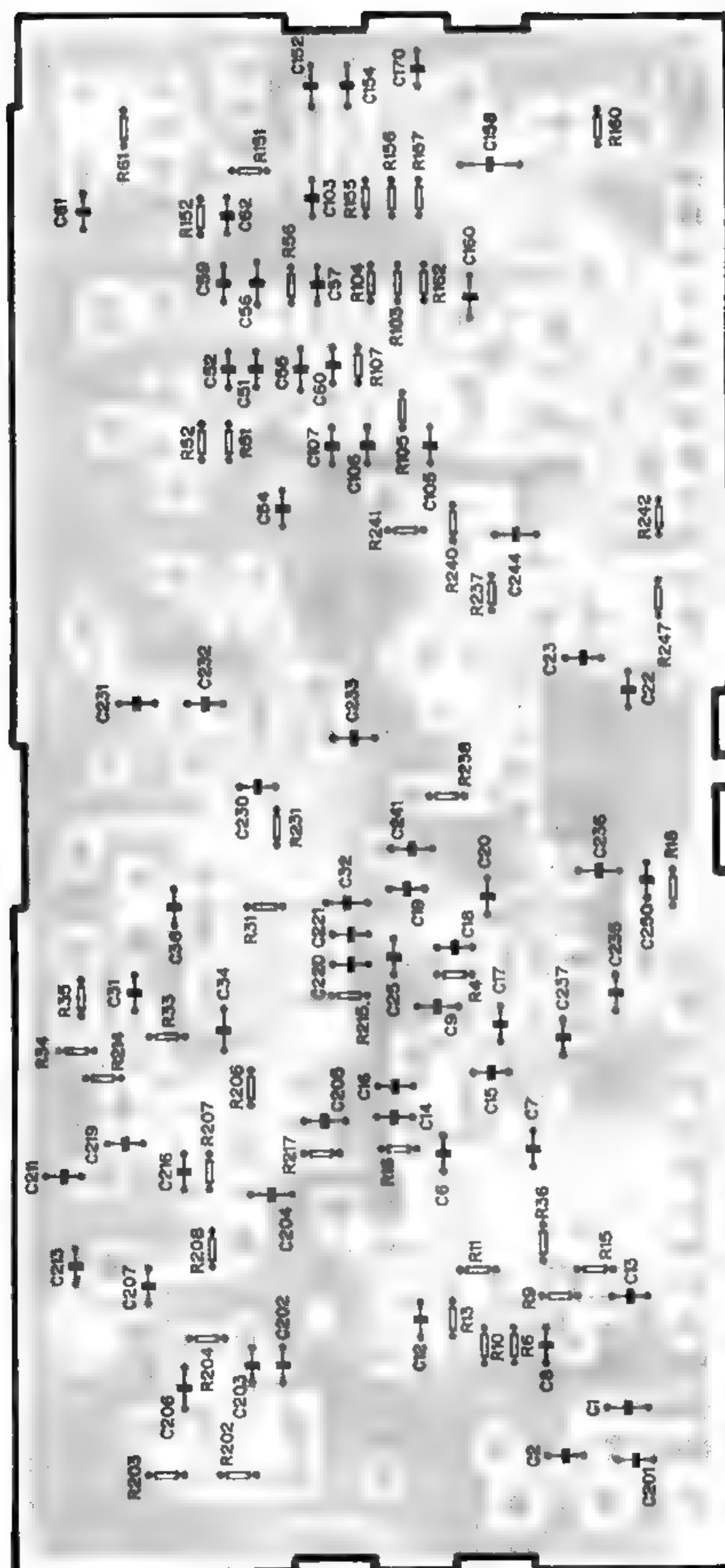
**SIDE B**

Fig. 24



5. ELECTRICAL PARTS LIST

(1)PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

====Circuit Symbol & No.==Part Name			Part No.	====Circuit Symbol & No.==Part Name			Part No.
<div><div>B</div><div>Unit Number : CWE1416 (DEH-435R/X1M/EW, 434R/X1M/EW) Unit Name : FM/AM Tuner Unit</div></div>				R	8		RS1/16S332J
				R	9		RS1/16S473J
				R	10		RS1/16S223J
				R	11		RS1/16S124J
				R	13		RS1/16S563J
MISCELLANEOUS							
IC	1	IC	PA4023B	R	15		RS1/16S271J
IC	2	IC	PA4024A	R	16		RS1/16S104J
Q	1	Transistor	2SC2412KLN	R	17		RS1/16S332J
Q	2	Transistor	DTC124EU	R	18		RS1/16S332J
Q	3	FET	3SK263	R	31		RS1/16S470J
Q	31	Transistor	2SC2412KLN	R	32		RS1/16S822J
Q	154	Transistor	DTC124EU	R	33		RS1/16S822J
Q	165	Transistor	2SC2412KLN	R	34		RS1/16S331J
Q	201	FET	2SK932	R	35		RS1/16S331J
Q	202	Transistor	2SC2412KLN	R	51		RS1/16S271J
Q	203	Transistor	DTC124EU	R	52		RS1/16S560J
D	4	Diode	1SV250	R	55		RS1/16S102J
D	5	Diode	KV1410-F1	R	56		RS1/16S823J
D	6	Diode	MA157	R	61		RS1/16S392J
D	7	Diode	KV1410-F1	R	62		RS1/16S393J
D	8	Diode	KV1410-F1	R	101		RS1/16S272J
D	201	Diode	MA157	R	102		RS1/16S682J
D	202	Diode	MA157	R	103		RS1/16S333J
D	231	Diode	SVC253	R	104		RS1/16S334J
L	2	Coil	CTC1108	R	105		RS1/16S683J
L	3	Inductor	LCTB2R2K2125	R	107		RS1/16S222J
L	4	Coil	CTC1108	R	151		RS1/16S222J
L	5	Coil	CTC1107	R	152		RS1/16S393J
L	6	Inductor	LCTBR15K1608	R	154		RS1/16S104J
L	51	Ferri-Inductor	LAU150K	R	155		RS1/16S273J
L	201	Ferri-Inductor	LAU4R7K	R	156		RS1/16S243J
L	202	Ferri-Inductor	LAU330K	R	157		RS1/16S203J
L	203	Inductor	CTF1287	R	160		RS1/16S222J
L	208	Inductor	LAU121K	R	161		RS1/16S563J
L	231	Inductor	LCTA3R3J3225	R	162		RS1/16S105J
T	31	Coil	CTE1116	R	163		RS1/16S222J
T	51	Coil	CTC1136	R	202		RS1/16S223J
TC	1	Capacitor	CCL1038	R	203		RS1/16S225J
CF	51	Ceramic Filter	CTF1292	R	204		RS1/16S103J
CF	52	Ceramic Filter	CTF1292	R	206		RS1/16S220J
CF	53	Ceramic Filter	CTF1292	R	207		RS1/16S101J
CF	232	Ceramic Filter	CTF1348	R	208		RS1/16S102J
X	151	Resonator 920.5kHz	CSS1365	R	209		RS1/16S471J
X	231	Crystal Resonator 10.26MHz	CSS1111	R	214		RS1/16S822J
VR	154	Semi-fixed 150kΩ(B)	CCP1213	R	215		RS1/16S822J
AR	1	Capacitor with Discharge Gap	DSP-201M	R	217		RS1/16S102J
RESISTORS				R	231		RS1/16S272J
R	1		RS1/16S0R0J	R	232		RS1/16S473J
R	4		RS1/16S154J	R	237		RS1/16S103J
R	5		RS1/16S391J	R	238		RS1/16S104J
R	6		RS1/16S223J				
R	7		RS1/16S123J				

====Circuit Symbol & No.====Part Name	Part No.	====Circuit Symbol & No.====Part Name	Part No.
R 239	RS1/16S104J	C 205	CKSQYB473K16
R 240	RS1/16S332J	C 206	CKSQYB104K16
R 241	RS1/16S202J	C 207	CCSRCH560J50
R 243	RS1/16S123J	C 209	CKSQYB104K16
R 244	RS1/16S103J	C 211	CCSRCH101J50
R 247	RS1/16S123J	C 212	CEJA470M6R3
CAPACITORS		C 213	CKSRYB103K25
C 1	CCSQCH6R0D50	C 216	CCSRCH101J50
C 2	CCSRCK2R0C50	C 217	CEJA1R5M50
C 4	CCSRCH820J50	C 219	CCSRCH471J50
C 6	CCSRCH820J50	C 220	CKSRYB103K25
C 8	CKSRYB103K25	C 230	CKSRYB103K25
C 9	CKSQYB104K16	C 231	CCSRCH330J50
C 10	CCSRCKR50C50	C 232	CCSRCH150J50
C 11	CEJA1R0M50	C 233	CKSQYB104K16
C 12	CKSRYB222K50	C 234	CEJA330M10
C 13	CKSRYB222K50	C 235	CKSRYB332K50
C 14	CCSRCH220J50	C 236	CKSQYB473K16
C 16	CCSRCH8R0D50	C 237	CCSRCH120J50
C 17	CKSRYB222K50	C 239	CKSRYB472K50
C 18	CKSRYB103K25	C 240	CEJAR47M50
C 19	CKSRYB222K50	C 241	CKSQYB104K16
C 20	CKSRYB222K50	C 242	CEJAR47M50
C 21	CEJA100M16	C 243	CEJAR33M50
C 22	CCSRTH9R0D50	C 244	CKSQYB473K16
C 23	CCSRTH120J50	C 245	CKSRYB123K25
C 24	CCSRCH471J50	C 246	CKSQYB473K16
C 25	CKSRYB103K25	C 250	CCSRCH471J50
C 31	CKSRYB103K25	<div>B</div> Unit Number : CWE1420 (DEH-433R/X1M/GR) Unit Name : FM/AM Tuner Unit	
C 32	CKSQYB472K50		
C 33	CCSRCH5R0C50	MISCELLANEOUS	
C 34	CKSQYB104K16	IC 1	IC PA4023B
C 36	CCSRRH201J50	IC 2	IC PA4024A
C 51	CKSRYB223K25	Q 1	Transistor 2SC2412KLN
C 52	CKSRYB103K25	Q 2	Transistor DTC124EU
C 54	CCSRCH470J50	Q 3	FET 3SK263
C 55	CKSQYB223K25	Q 31	Transistor 2SC2412KLN
C 56	CKSQYB104K16	Q 154	Transistor DTC124EU
C 57	CKSRYB472K50	Q 165	Transistor 2SC2412KLN
C 58	CEJA330M10	D 4	Diode 1SV250
C 59	CKSRYB103K25	D 5	Diode KV1410-F1
C 61	CCSRCH270J50	D 6	Diode MA157
C 62	CKSRYB103K25	D 7	Diode KV1410-F1
C 63	CEJAR15M50	D 8	Diode KV1410-F1
C 101	CEJANP100M10	L 2	Coil CTC1108
C 102	CKSRYB182K50	L 3	Inductor LCTB2R2K2125
C 103	CKSRYB682K25	L 4	Coil CTC1108
C 104	CEJA2R2M50	L 5	Coil CTC1107
C 105	CKSRYB103K25	L 6	Inductor LCTBR15K1608
C 106	CCSRCH151J50	L 51	Ferri-Inductor LAU150K
C 107	CKSRYB103K25	T 31	Coil CTE1116
C 151	CKSRYB472K50	T 51	Coil CTC1136
C 152	CKSQYB104K16	TC 1	Trimmer CCL1046
C 153	CEJA3R3M50	CF 51	Ceramic Filter CTF1292
C 154	CKSQYB104K16	CF 52	Ceramic Filter CTF1292
C 157	CEJA3R3M50	CF 53	Ceramic Filter CTF1292
C 158	CKSYB474K16	X 151	Resonator 920.5kHz CSS1365
C 159	CEJA220M6R3	X 231	Crystal Resonator 10.26MHz CSS1111
C 160	CKSQYB104K16	VR 154	Semi-fixed 150kΩ(B) CCP1213
C 161	CKSQYB104K16	AR 1	Capacitor with Discharge Gap DSP-201M
C 162	CEJA3R3M50	RESISTORS	
C 163	CKSRYB102K50	R 1	RS1/16S0R0J
C 170	CCSRCH100D50	R 4	RS1/16S154J
C 201	CCSRCH471J50	R 5	RS1/16S391J
C 202	CCSRCH100D50	R 6	RS1/16S223J
C 203	CKSRYB332K50	R 7	RS1/16S123J
C 204	CKSQYB473K16		



====Circuit Symbol & No.===Part Name	Part No.	====Circuit Symbol & No.===Part Name	Part No.
R 8	RS1/16S332J	C 20	CKSRYB222K50
R 9	RS1/16S473J	C 21	CEJA100M16
R 10	RS1/16S223J	C 22	CCSRTH9R0D50
R 11	RS1/16S124J	C 23	CCSRTH120J50
R 13	RS1/16S563J	C 24	CCSRCH471J50
R 15	RS1/16S271J	C 25	CKSRYB103K25
R 16	RS1/16S104J	C 31	CKSRYB103K25
R 17	RS1/16S332J	C 32	CKSQYB472K50
R 18	RS1/16S332J	C 33	CCSRCH5R0C50
R 31	RS1/16S470J	C 34	CKSQYB104K16
R 32	RS1/16S822J	C 36	CCSRRH201J50
R 33	RS1/16S822J	C 51	CKSRYB223K25
R 34	RS1/16S331J	C 52	CKSRYB103K25
R 35	RS1/16S331J	C 54	CCSRCH470J50
R 51	RS1/16S271J	C 55	CKSQYB223K25
R 52	RS1/16S560J	C 56	CKSQYB104K16
R 55	RS1/16S102J	C 57	CKSRYB472K50
R 56	RS1/16S823J	C 58	CEJA330M10
R 61	RS1/16S392J	C 59	CKSRYB103K25
R 62	RS1/16S393J	C 61	CCSRCH270J50
R 101	RS1/16S272J	C 62	CKSRYB103K25
R 102	RS1/16S682J	C 63	CEJAR15M50
R 103	RS1/16S333J	C 101	CEJANP100M10
R 104	RS1/16S334J	C 102	CKSRYB182K50
R 105	RS1/16S683J	C 103	CKSRYB682K25
R 107	RS1/16S222J	C 104	CEJA2R2M50
R 151	RS1/16S222J	C 105	CKSRYB103K25
R 152	RS1/16S393J	C 106	CCSRCH151J50
R 154	RS1/16S104J	C 107	CKSRYB103K25
R 155	RS1/16S273J	C 151	CKSRYB472K50
R 156	RS1/16S243J	C 152	CKSQYB104K16
R 157	RS1/16S203J	C 153	CEJA3R3M50
R 160	RS1/16S222J	C 154	CKSQYB104K16
R 161	RS1/16S563J	C 157	CEJA3R3M50
R 162	RS1/16S105J	C 158	CKSYB474K16
R 163	RS1/16S222J	C 159	CEJA220M6R3
R 202	RS1/16S223J	C 160	CKSQYB104K16
R 203	RS1/16S225J	C 161	CKSQYB104K16
R 204	RS1/16S103J	C 162	CEJA3R3M50
R 206	RS1/16S220J	C 163	CKSRYB102K50
R 207	RS1/16S101J	C 170	CCSRCH100D50
R 208	RS1/16S102J		
R 214	RS1/16S822J		
R 215	RS1/16S822J		
R 217	RS1/16S102J		
R 231	RS1/16S272J		
R 237	RS1/16S103J		
R 238	RS1/16S104J		
R 240	RS1/16S332J		
R 241	RS1/16S202J		
R 247	RS1/16S123J		
CAPACITORS		MISCELLANEOUS	
C 1	CCSQCH6R0D50	IC 101	IC
C 2	CCSRCK2R0C50	IC 201	IC
C 4	CCSRCH820J50	IC 301	IC
C 6	CCSRCH820J50	IC 302	IC
C 8	CKSRYB103K25	IC 601	IC
C 9	CKSQYB104K16	Q 603	Transistor
C 10	CCSRCKR50C50	D 601	Diode
C 11	CEJA1R0M50	D 701	Diode
C 12	CKSRYB222K50	D 702	Diode
C 13	CKSRYB222K50	D 801	
C 14	CCSRCH220J50	D 802	
C 16	CCSRCH8R0D50	X 201	Ceramic Resonator 16.93MHz
C 17	CKSRYB222K50	S 801	Switch(Home)
C 18	CKSRYB103K25	S 802	Switch(Clamp)
C 19	CKSRYB222K50		
			UPC2572GS
			UPD63702GF
			XLA6997FP
			XLA6285FP
			TA2063F
			PQ05TZ51
			2SD1664
			UMD2N
			2SD1781K
			2SD1781K
			2SB709A
			MA151WA
			1SR154-400
			1SR154-400
			CL200IRX
			CL200IRX
			CSS1363
			CSN1028
			CSN1028

**E** Unit Number : CWX1889  
Unit Name : Control Unit



====Circuit Symbol &amp; No.====Part Name

Part No.

## RESISTORS

R	101	RS1/8S100J
R	102	RS1/8S120J
R	103	RS1/16S102J
R	104	RS1/16S822J
R	105	RS1/16S682J
R	106	RS1/16S183J
R	107	RS1/16S822J
R	108	RS1/16S333J
R	109	RS1/16S683J
R	110	RS1/16S134J
R	111	RS1/16S273J
R	112	RS1/16S222J
R	113	RS1/16S103J
R	114	RS1/16S103J
R	115	RS1/16S102J
R	116	RS1/16S163J
R	117	RS1/16S163J
R	201	RS1/16S104J
R	202	RS1/16S473J
R	304	RS1/16S0R0J
R	501	RS1/16S0R0J
R	505	RS1/16S102J
R	507	RA4C102J
R	508	RA4C681J
R	510	RS1/10S0R0J
R	601	RS1/16S102J
R	602	RS1/16S102J
R	603	RS1/16S223J
R	604	RS1/16S223J
R	605	RS1/16S162J
R	606	RS1/16S162J
R	607	RS1/16S103J
R	801	RS1/8S751J
R	802	RS1/8S751J
CAPACITORS		
C	101	CEV101M6R3
C	102	CKSQYB104K16
C	103	CEV470M6R3
C	104	CKSYB334K16
C	105	CCSRCH330J50
C	106	CKSRYB103K25
C	107	CEV4R7M35
C	108	CKSQYB273K50
C	109	CCSRCH101J50
C	110	CKSQYB104K16
C	111	CKSRYB332K50
C	112	CKSQYB473K16
C	113	CKSRYB103K25
C	114	CKSRYB391K50
C	115	CCSRCH121J50
C	116	CKSRYB682K25
C	117	CKSRYB333K16
C	118	CKSYB334K16
C	119	CKSYB334K16
C	120	CKSYB334K16
C	121	CKSYB334K16
C	122	CKSQYB104K16
C	123	CKSRYB472K50
C	124	CKSQYB104K16
C	125	CCSRCH6R0D50
C	126	CKSRYB153K25
C	127	CCSRCH102J25
C	201	CKSYB334K16
C	202	CKSQYB104K16
C	203	CKSQYB104K16

====Circuit Symbol &amp; No.====Part Name

Part No.

C	303	CEV470M16
C	304	CKSRYB103K25
C	305	CKSRYB103K25
C	306	CKSRYB103K25
C	502	CKSRYB471K50
C	601	CEV101M6R3
C	602	CKSQYB104K16
C	603	CEV4R7M35
C	604	CEV4R7M35
C	605	CKSRYB152K50
C	606	CKSRYB152K50
C	607	CEV220M6R3
C	701	CCH1233
C	702	CKSYB334K16
C	703	CEV101M6R3
C	901	CCSRCH471J50
C	902	CCSRCH271J50
C	903	CCSRCH471J50
C	904	CCSRCH101J50

**A** Unit Number : CWM4963  
(DEH-435R/X1M/EW, 434R/X1M/EW)  
Unit Number : CWM5202(DEH-433R/X1M/GR)  
Unit Name : Tuner Amp Unit

## MISCELLANEOUS

IC	451	IC	SN761027DL
IC	501	IC	PM2004B
IC	551	IC	TDA7384A
IC	601	IC	PD4639D
IC	602	IC	S-80734AN
IC	701	IC	PMW001B
Q	411	Transistor	2SC2458
Q	413	Transistor	2SD1468S
Q	414	Transistor	2SD1468S
Q	421	See Contrast table(2)	
Q	423	See Contrast table(2)	
Q	431	Transistor	IMH3A
Q	441	Transistor	DTA124ES
Q	501	Transistor	2SC2458
Q	502	Transistor	DTC114ES
Q	551	Transistor	DTC144ES
Q	641	Transistor	DTC114ES
Q	651	Transistor	2SA1048
Q	653	Transistor	2SB1236
Q	654	Transistor	DTC124ES
Q	701	Transistor	2SC2712
Q	951	Transistor	2SB1243
Q	952	Transistor	DTC124ES
Q	961	Transistor	2SB1243
Q	962	Transistor	DTC114ES
Q	971	Transistor	2SC2458
Q	972	Transistor	2SC2458
Q	973	Transistor	2SD1859
Q	981	Transistor	2SD2396
Q	982	Transistor	2SA1674
Q	983	See Contrast table(2)	
Q	984	Transistor	IMH1A
Q	991	Transistor	2SD2396
Q	992	Transistor	IMD2A
D	411	Diode	1SS133
D	503	Diode	1SS133
D	601	Diode	1SS133
D	657	Diode	HZS6L(B2)
D	658	Diode	MA153
D	659	Diode	MA153
D	660	Diode	MA153
D	701	Diode	MTZ5R1J(B)
D	951	Diode	1SR139-200
D	952	Diode	1SR139-200
D	961	Diode	1SR139-200

DEH-435R,434R,433R

====Circuit Symbol & No.===Part Name			Part No.	====Circuit Symbol & No.===Part Name			Part No.
D	962	Diode	1SR139-200	R	520	See Contrast table(2)	
D	971	Diode	HZS6L(C3)	R	521	See Contrast table(2)	
D	972	Diode	HZS7L(C2)	R	522		RS1/10S682J
D	973	Diode	1SR139-200	R	523	See Contrast table(2)	
D	974	Diode	HZS6L(B1)	R	524		RS1/10S561J
D	981	Diode	HZS9L(B3)	R	525		RD1/4PU272J
D	992	Diode	HZS9L(B1)	R	526		RS1/10S472J
L	501	Ferri-Inductor	LAU220K	R	527		RS1/10S682J
L	502	See Contrast table(2)		R	528		RS1/10S472J
L	503	Ferri-Inductor	LAU2R2K	R	529		RS1/10S681J
L	601	Ferri-Inductor	LAU2R2K	R	530		RS1/10S222J
L	602	Ferri-Inductor	LAU101K	R	531		RS1/10S103J
L	651	Ferri-Inductor	LAU101K	R	532		RS1/10S224J
L	701	Ferri-Inductor	LAU101K	R	533		RS1/8S473J
L	702	Inductor	LCTB2R2K2125	R	534		RD1/4PU102J
TH	601	Thermistor	CCX1031	R	536		RS1/8S102J
X	501	Crystal Resonator 7.200MHz	CSS1379	R	537		RS1/10S0R0J
X	601	Ceramic Resonator 4.194MHz	CSS1047	R	550		RS1/8S0R0J
X	701	Crystal Resonator 4.332MHz	CSS1056	R	570		RS1/10S103J
VR	701	Semi-fixed 22kΩ(B)	CCP1321	R	571		RS1/10S103J
EF	951	EMI Filter	CCG1003	R	579		RS1/10S331J
BZ	601	Buzzer	CPV1011	R	580		RS1/10S103J
		FM/AM Tuner Unit	See Contrast table(2)	R	581		RD1/4PU102J
				R	582		RD1/4PU102J
				R	583		RS1/10S562J
RESISTORS							
R	411		RS1/10S105J	R	584		RD1/4PU102J
R	412		RD1/4PU472J	R	601		RN1/10SE2202D
R	413		RS1/10S224J	R	602		RD1/4PU912J
R	415		RS1/10S224J	R	603		RS1/10S104J
R	416		RS1/10S224J	R	604		RS1/10S393J
R	417		RS1/10S223J	R	605		RD1/4PU102J
R	418		RS1/10S223J	R	606		RS1/10S124J
R	419		RS1/10S222J	R	607		RS1/10S473J
R	420		RS1/10S222J	R	621		RD1/4PU473J
R	421	See Contrast table(2)		R	624		RS1/10S0R0J
R	422	See Contrast table(2)		R	625	See Contrast table(2)	
R	431		RS1/8S471J	R	626		
R	432		RS1/8S471J	R	628	See Contrast table(2)	RS1/10S0R0J
R	435		RS1/10S223J	R	638		RD1/4PU473J
R	436		RS1/10S223J	R	639		RD1/4PU473J
R	443		RD1/4PU222J	R	641		RS1/10S202J
R	444		RD1/4PU222J	R	642		RD1/4PU102J
R	445		RS1/10S272J	R	651		RD1/4PU472J
R	446		RS1/10S272J	R	652		RD1/4PU472J
R	459		RS1/10S272J	R	653		RS1/10S222J
R	460		RS1/10S272J	R	654		RS1/10S222J
R	461		RS1/10S151J	R	655		RD1/4PU222J
R	462		RS1/10S151J	R	656		RD1/4PU472J
R	475		RD1/4PU471J	R	657		RD1/4PU222J
R	476		RD1/4PU471J	R	658		RS1/8S222J
R	502		RS1/10S222J	R	659		RD1/4PU473J
R	503		RD1/4PU472J	R	661		RS1/10S1R0J
R	504		RD1/4PU223J	R	664		RS1/10S472J
R	506		RS1/10S0R0J	R	665		RD1/4PU102J
R	507		RS1/8S473J	R	668		RD1/4PU222J
R	508		RS1/10S102J	R	681		RD1/4PU222J
R	509		RS1/10S472J	R	682		RD1/4PU222J
R	511		RS1/10S222J	R	683		RD1/4PU222J
R	513		RS1/10S472J	R	688		RD1/4PU681J
R	514		RS1/10S473J	R	691		RS1/10S102J
R	515		RD1/4PU681J	R	692		RS1/8S102J
R	516		RD1/4PU681J	R	693		RS1/10S102J
R	517		RD1/4PU101J	R	701		RS1/8S102J
R	518		RD1/4PU681J	R	702		RD1/4PU151J
R	519	See Contrast table(2)		R	703		RS1/8S103J



====Circuit Symbol & No.==Part Name		Part No.	====Circuit Symbol & No.==Part Name		Part No.	
R	704	RS1/10S0R0J	C	461	CEJA1R0M50	
R	706	RS1/10S0R0J	C	462	CEJA1R0M50	
R	707	RD1/4PU102J	C	469	CEJA2R2M50	
R	709	RS1/10S333J	C	470	CEJA2R2M50	
R	710	RD1/4PU102J	C	471	CKSQYB333K50	
R	711	RS1/10S102J	C	472	CKSQYB333K50	
R	712	RS1/10S102J	C	473	CEJA220M6R3	
R	713	RS1/10S102J	C	474	CEJA2R2M50	
R	714	RS1/10S102J	C	477	CKSQYB104K50	
R	715	RS1/8S562J	C	481	CEJA470M10	
R	716	RS1/8S104J	C	482	CKSQYB104K50	
R	717	RS1/10S104J	C	483	CKSQYB183K50	
R	951	RS1/10S472J	C	484	CKSQYB183K50	
R	952	RD1/4PU331J	C	485	CKSQYB102K50	
R	953	RD1/4PU331J	C	486	CKSQYB102K50	
R	961	RS1/10S472J	C	501	CKSQYB103K50	
R	962	RD1/2PM561J	C	502	CKSQYB223K50	
R	971	RS1/10S473J	C	503	CKSQYB223K50	
R	972	RS1/10S103J	C	504	CKSQYB473K50	
R	973	RS1/10S473J	C	505	CCSCH101J50	
R	974	RS1/10S473J	C	506	CKSYB103K50	
R	975	RS1/10S103J	C	507	CKSQYB102K50	
R	976	RS1/10S473J	C	508	CKSQYB103K50	
R	977	RS1/10S101J	C	510	CEJA220M10	
R	978	RS1/10S472J	C	512	CEJA220M10	
R	979	RS1/10S472J	C	513	CKSQYB102K50	
R	981	RS1/10S1R0J	C	515	CKSQYB223K50	
R	982	RD1/4PU471J	C	516	See Contrast table(2) See Contrast table(2)	
R	983	RS1/10S472J	C	517		
R	984	See Contrast table(2)	C	518	4.7μF/16V	CCH1250
R	985	RD1/4PU102J	C	519	See Contrast table(2) See Contrast table(2)	CKSQYB103K50
R	986	See Contrast table(2)	C	520		
R	987	RS1/10S221J	C	521	See Contrast table(2) See Contrast table(2)	
R	991	RD1/4PU221J	C	522		
R	992	RD1/4PU221J	C	523		CEJA220M10 CKSQYB104K50
R	993	RS1/10S472J	C	524		CCSQCH150J50
R	994	RS1/10S122J	C	525		CCSQCH150J50
CAPACITORS			C	526		CKSYB332K50
C	411	CKSQYB471K50	C	527		CKSQYB103K50
C	412	CKSQYB223K50	C	529		CKSQYB103K50
C	421	See Contrast table(2)	C	530		CKSQYB103K50
C	422	See Contrast table(2)	C	531		CCSQCH101J50
C	431	CEJA100M16	C	532		CKSQYB103K50
			C	535		CKSQYB223K50
			C	536		CKSQYB103K50
C	432	CEJA100M16				
C	435	CCSQCH220J50	C	539		CKSQYB473K50
C	436	CCSQCH220J50	C	551		CEJAR22M50
C	441	CEJA1R0M50	C	552		CEJAR22M50
C	442	CEJA1R0M50	C	553		CEJAR22M50
			C	554		CEJAR22M50
C	443	CKSQYB223K50				
C	444	CKSQYB223K50	C	556	3300μF/16V	CCH1150
C	445	CKSQYB102K50	C	570		CEJA100M16
C	446	CKSQYB102K50	C	571		CEJA330M10
C	447	CKSQYB102K50	C	572		CEJA1R0M50
			C	573		CKSYB104K50
C	451	CEJA2R2M50				
C	452	CEJA2R2M50	C	574		CEJA1R0M50
C	453	CEJA4R7M35	C	590		CKSQYB103K50
C	454	CEJA4R7M35	C	591		CEJA220M10
C	455	CKSYB104K50	C	604		CEJA4R7M35
			C	605		CKSQYB473K50
C	456	CKSQYB104K50				
C	457	CEJANP100M16	C	606		CKSQYB473K50
C	458	CEJANP100M16	C	607		CEJA2R2M50
C	459	CKSQYB822K50	C	651		CKSQYB473K50
C	460	CKSQYB822K50	C	652		CEJA4R7M35
			C	701		CKSYB105K16



DEH-435R,434R,433R

====Circuit Symbol & No.===Part Name		Part No.
C	703	CKSQYB103K50
C	704	CKSQYB222K50
C	705	CKSYB104K50
C	706	CKSQYB472K50
C	707	CKSQYB104K50
C	708	CEJA4R7M35
C	709	CEJA4R7M35
C	710	CKSQYB223K50
C	711	CCSQCH220J50
C	712	CCSQCH220J50
C	713	CKSQYB104K50
C	714	CKSYB104K50
C	715	CKSQYB223K50
C	961	CKSYB473K50
C	971	470μF/16V
C	972	CKSQYB473K50
C	973	CEJA101M10
C	974	CKSQYB473K50
C	981	CEAS331M10
C	982	CKSQYB103K50
C	983	CEJA101M16
C	984	CKSYB473K50
C	991	CKSQYB473K50
C	992	CKSQYB102K50
C	993	CEAL101M10

C

Unit Number : CWM4971(DEH-435R/X1M/EW)  
Unit Number : CWM4972(DEH-434R/X1M/EW, 433R/X1M/GR)  
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	901	IC	PD6122A
D	901	Diode	DA204K
D	902	Diode	DA204K
L	901	Inductor	LCTB4R7K3216
X	901	Ceramic Resonator 4.97MHz	CSS1312
S	903	Switch	CSG-253
S	904	Switch	CSG-253
S	909	Switch	CSG-253
IL	901	See Contrast table(2)	
IL	902	See Contrast table(2)	
IL	903	See Contrast table(2)	
IL	904	See Contrast table(2)	
IL	905	See Contrast table(2)	
LCD	901	LCD	CAW1328

====Circuit Symbol & No.===Part Name		Part No.
RESISTORS		
R	901	RS1/8S222J
R	902	RS1/8S222J
R	907	RS1/10S0R0J
R	910	RS1/10S0R0J
R	911	RS1/10S471J
R	912	RS1/10S471J
R	913	RS1/10S471J
R	914	RS1/10S471J
CAPACITORS		
C	901	CKSQYB103K50
C	902	CKSQYB103K50
C	903	CKSQYB103K50
C	904	CKSQYB103K50
C	906	CKSQYB473K50

D

Unit Number :  
Unit Name : Detector PCB

Q	1	Photo-transistor	CPT-230S-X
Q	2	Photo-transistor	CPT-230S-X

Miscellaneous Parts List

M	1	Pickup Unit(SERVICE)	CXX1230
M	1	Motor Unit(Spindle)	CXA9407
M	2	CRG Motor Unit(Carriage)	CXA9392
M	3	Load Motor Unit>Loading)	CXA9391

(2) CONTRAST TABLE

DEH-435R/X1M/EW, DEH-434R/X1M/EW and DEH-433R/X1M/GR have the same construction except for the following:  
Tuner Amp Unit

Circuit Symbol & No.	Part No.	
	DEH-435R/X1M/EW DEH-434R/X1M/EW	DEH-433R/X1M/GR
Q421	IMH3A	Not used
Q423	DTA124ES	Not used
Q983	2SA1674	Not used
L501	LAU220K	Not used
FM/AM Tuner Unit	CWE1416	CWE1420
R421,422	RS1/10S104J	Not used
R519,520	RS1/10S392J	RS1/10S0R0J
R521	RS1/10S152J	Not used
R523	RS1/10S103J	Not used
R625	RS1/10S0R0J	Not used
R628	Not used	RS1/10S473J
R984	RS1/8S472J	Not used
R986	RD1/4PU102J	Not used
C421,422	CEJA3R3M50	Not used
C516	CCH1250	Not used
C517	CKSQYB103K50	Not used
C520	CKLSR473K16	Not used
C521	CEASR47M50	Not used

Keyboard Unit

	Part No.	
	DEH-435R/EW	DEH-434R/EW DEH-433R/GR
IL901-905	CEL1481	CEL1479

6. ADJUSTMENT

6.1 TUNER ADJUSTMENT

● Connection Diagram

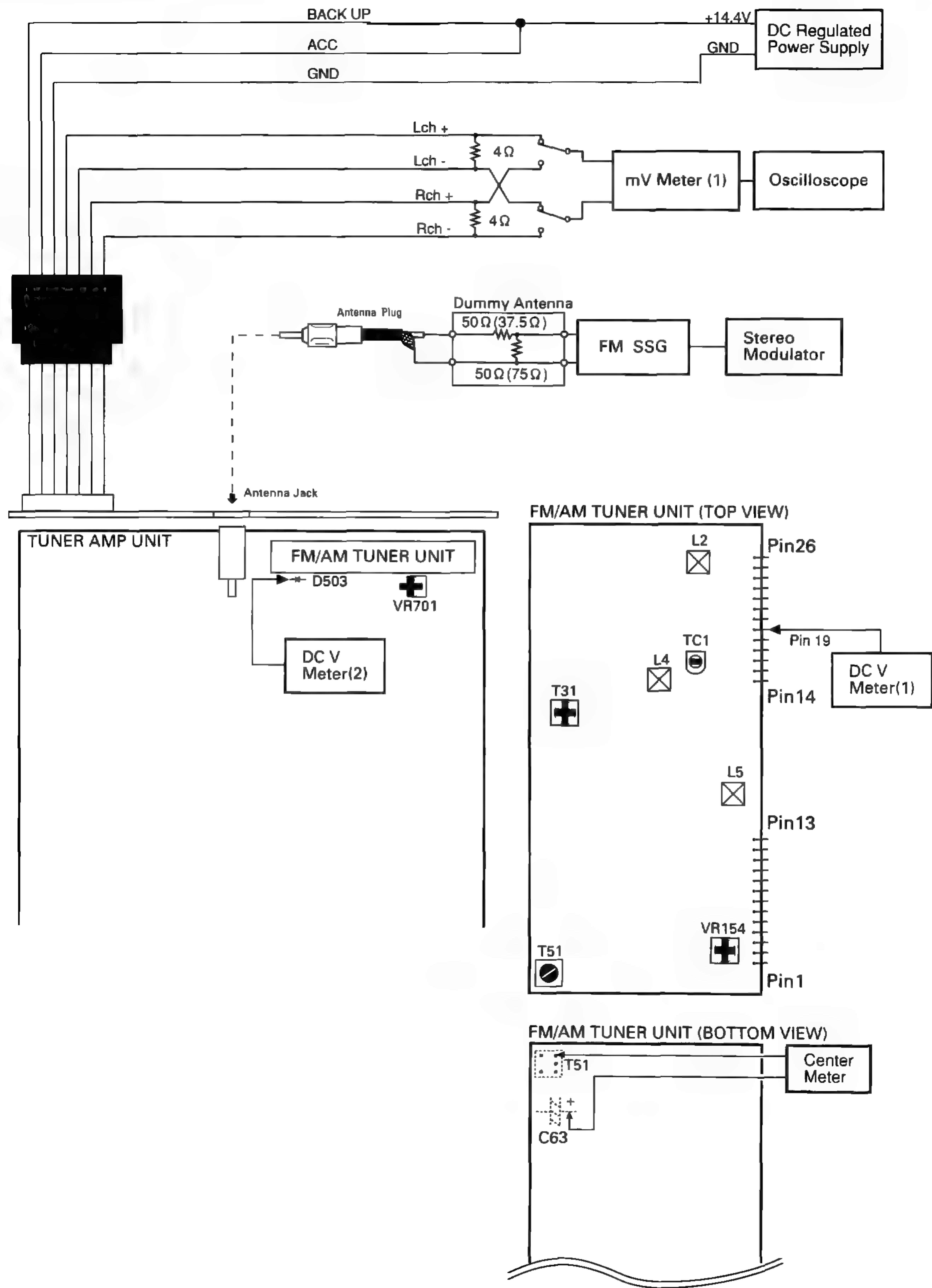


Fig. 25



FM ADJUSTMENT

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.)  
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
TUN Volt	1	.....	.....	108.0	L5	DC V Meter(1) : 6V
IF	1	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	1	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	1	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
Image	1	129.3 M	60—80	107.9	TC1	mV Meter(1) : Minimum
IFT	1	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	1	98.1 S	39	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

RDS SL ADJUSTMENT

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
	1	106.1 M	52	106.1	VR701	DC V Meter(2) : 2.25V±0.05V

## 6.2 CD ADJUSTMENT

### 1)Precautions

- This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND. If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.  
Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.  
Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.  
If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.
- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.
- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.
- Test mode starting procedure  
Switch ACC, back-up ON while pressing the 4 and 6 keys together.
- Test mode cancellation  
Switch ACC, back-up OFF.
- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit. Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.  
\*During PLAY, even if the eject button is pressed, the disc will not be ejected and the unit will remain in the PLAY mode.  
\*The unit will not load a disc.  
When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.
- When loading and unloading discs during adjustment procedures, always wait for the disc to be properly clamped or ejected before pressing another key. Otherwise, there is a risk of the actuator being destroyed.
- Turn power off when pressing the button TR+ or the button TR- key for focus search in the test mode. (Or else lens may stick and the actuator may be damaged.)
- SINGLE/4TRK/10TRK/32TRK will continue to operate even after the key is released. Tracking is closed the moment C-MOVE is released.
- JUMP MODE resets to SINGLE as soon as power is switched OFF.



## 6.3 CHECKING THE GRATING

### ● Checking the Grating After Changing the Pickup Unit

· **Note :**

Unlike previous CD mechanism modules the grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

· **Purpose :**

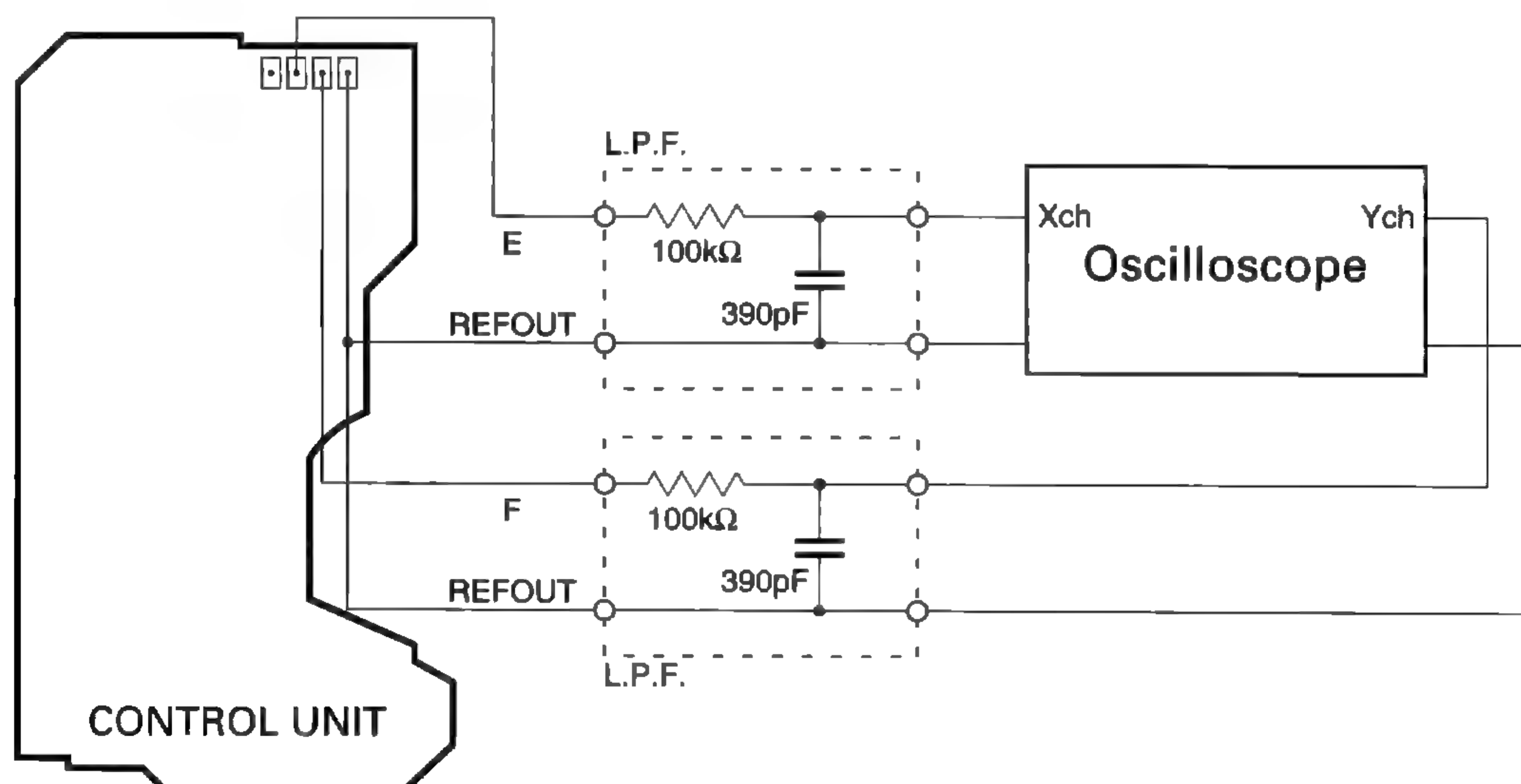
To check that the grating is within an acceptable range.

· **Symptoms of Mal-adjustment :**

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or track searching taking a long time, may appear.

· **Method :**

- |                       |                            |
|-----------------------|----------------------------|
| · Measuring Equipment | · Oscilloscope, Two L.P.F. |
| · Measuring Points    | · E, F, REFOUT             |
| · Disc                | · ABEX TCD-784             |
| · Mode                | · TEST MODE                |



· **Checking Procedure**

1. In test mode, load the disc and switch the 5V regulator on.
2. Using the **TR+** and **TR-** buttons, move the PU unit to the innermost track.
3. Press key **3** to close focus, the display should read "91". Press key **2** to implement the tracking balance adjustment the display should now read "81". Press key **3** 4 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the L.P.F. outputs using the oscilloscope and check that the phase difference is within  $75^\circ$ . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than  $75^\circ$  try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than  $75^\circ$  then the mechanism should be judged to be at fault.

· **Note**

Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" ( the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

· **Hint**

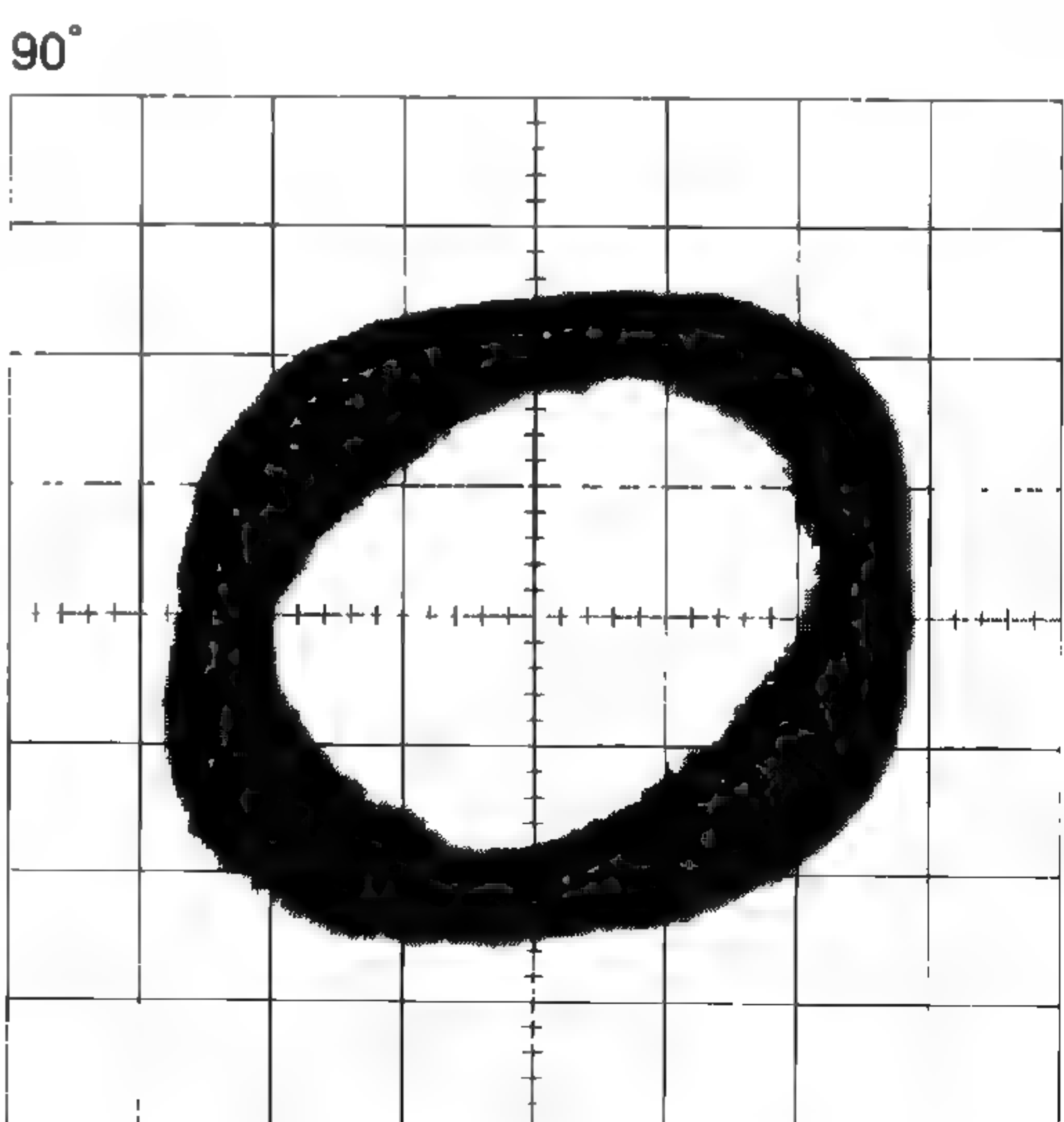
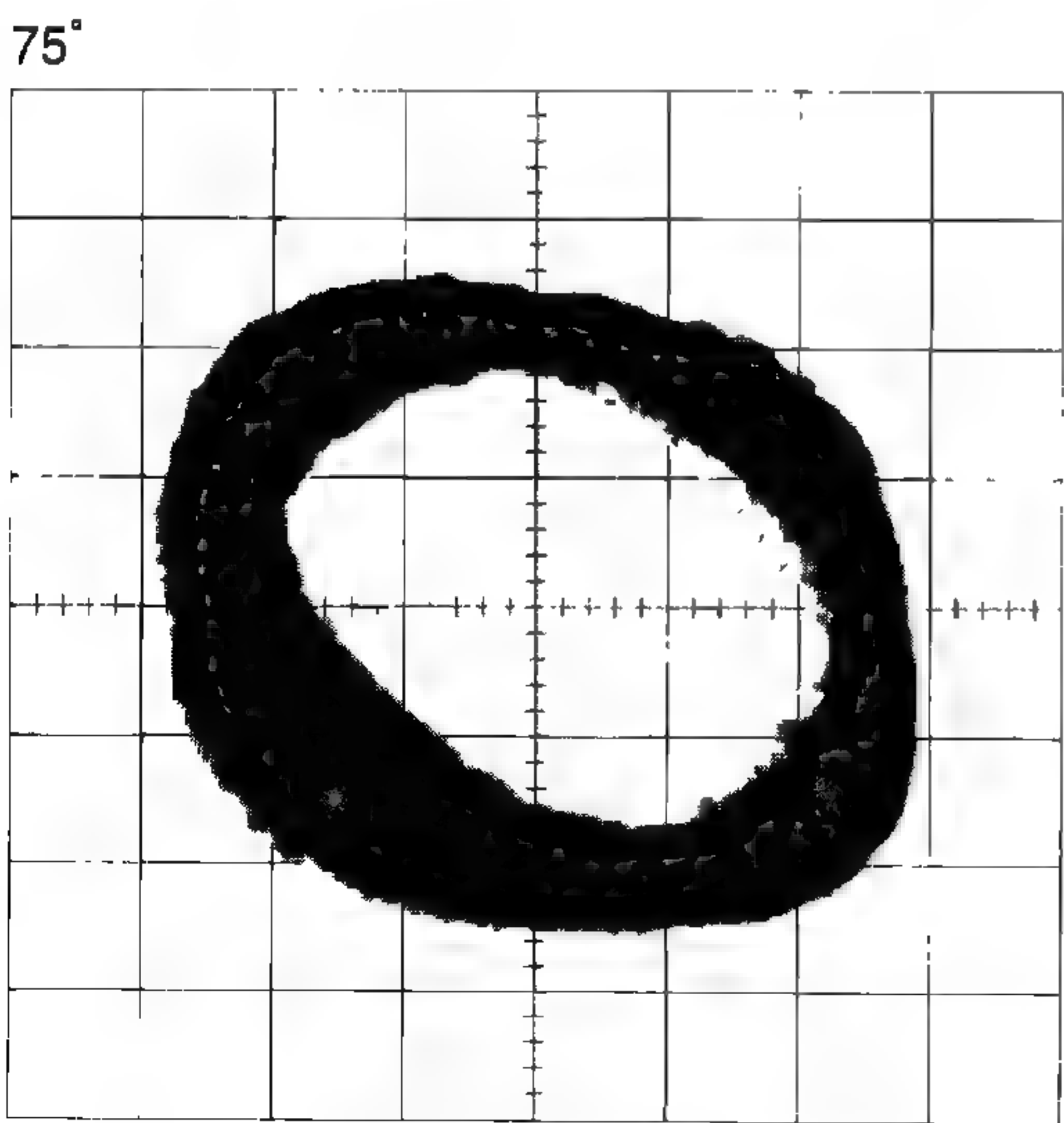
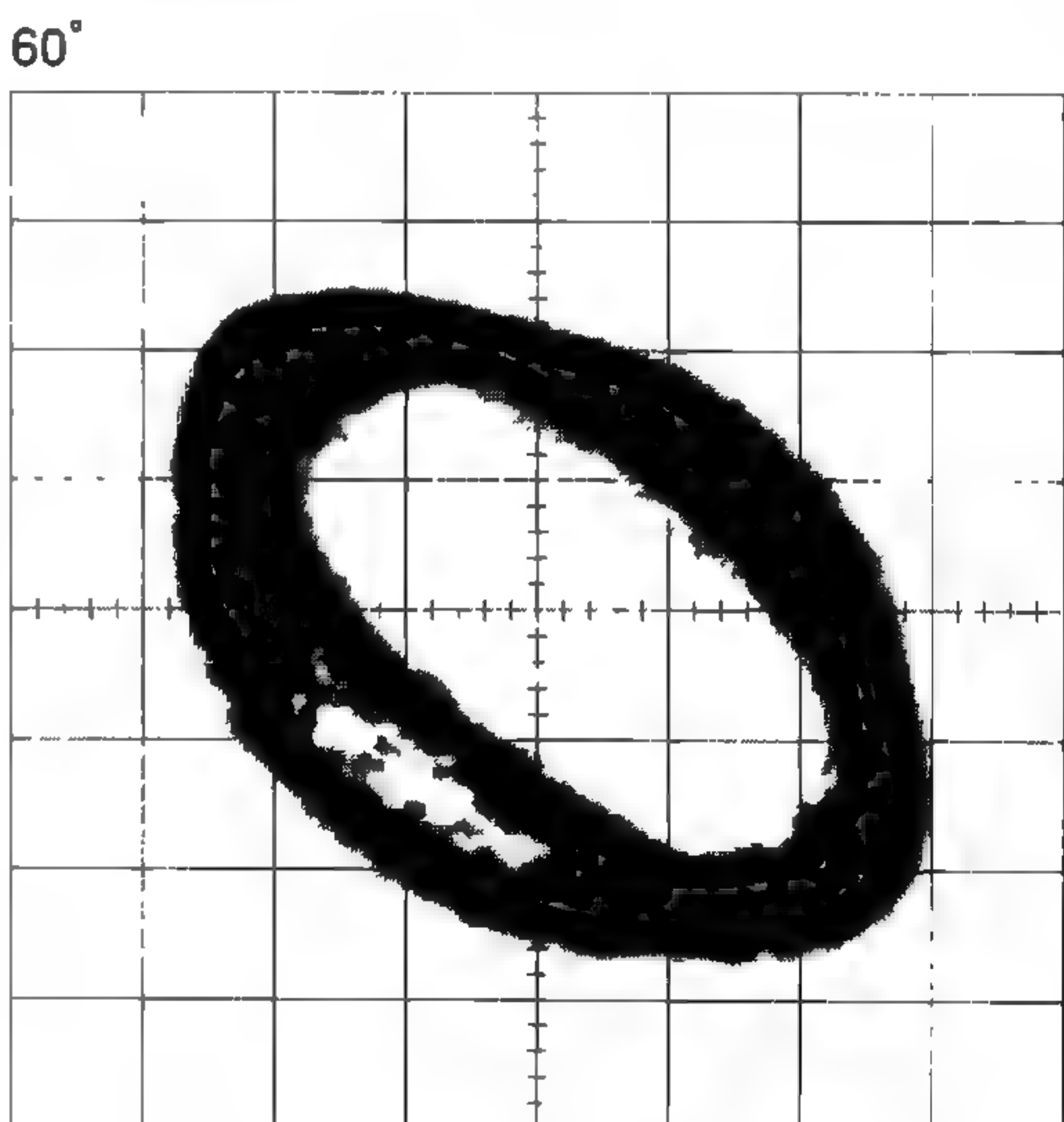
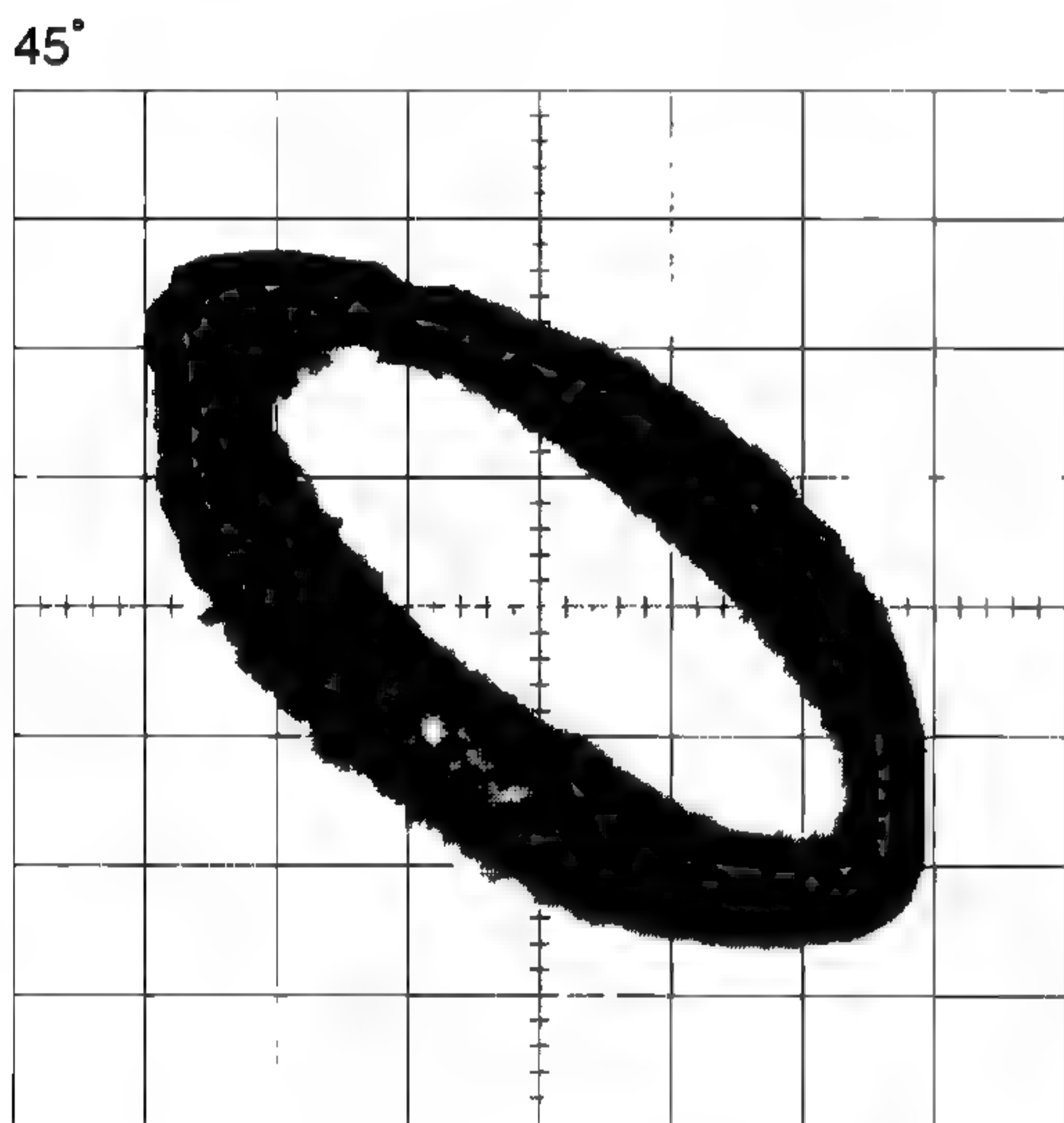
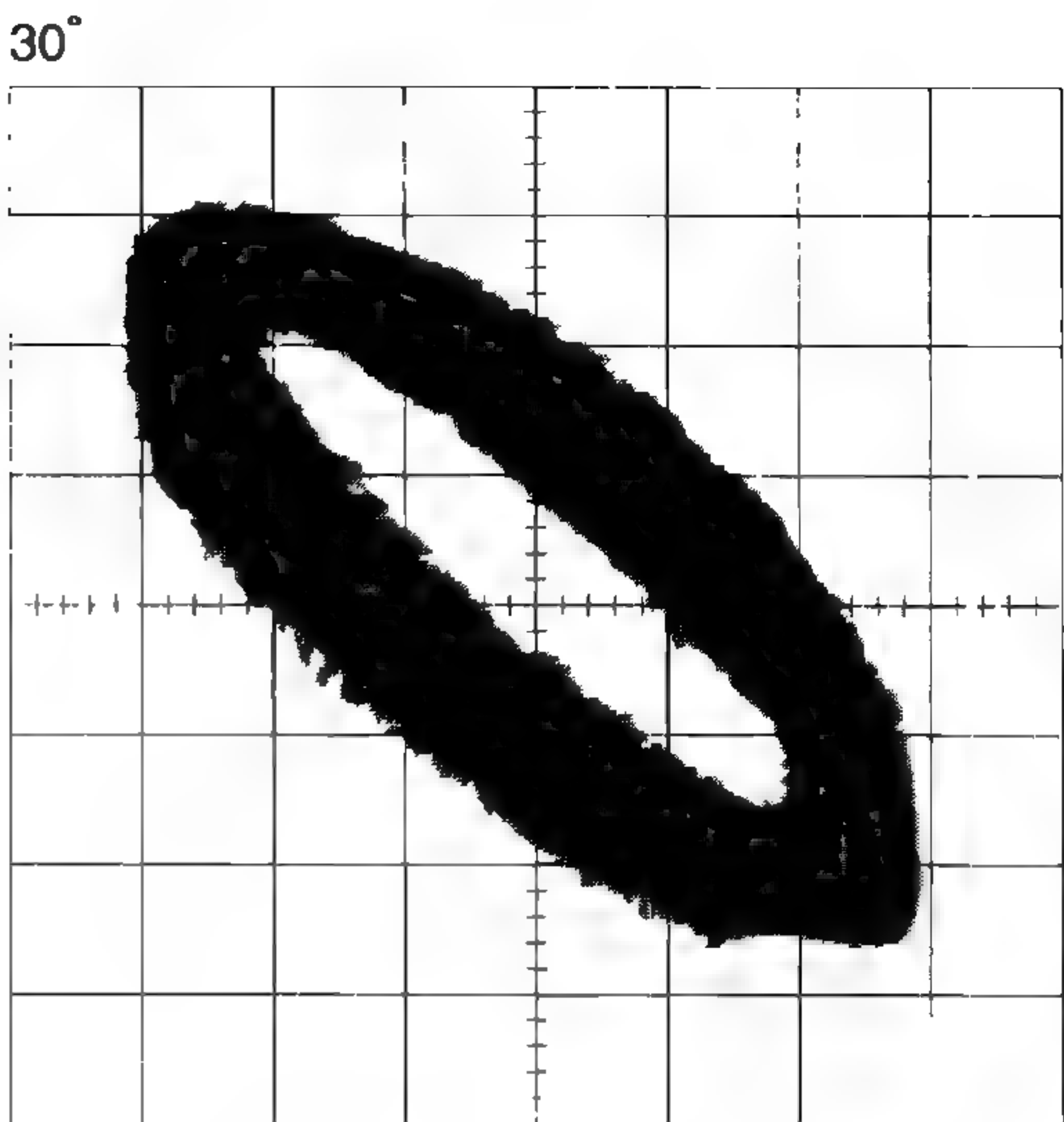
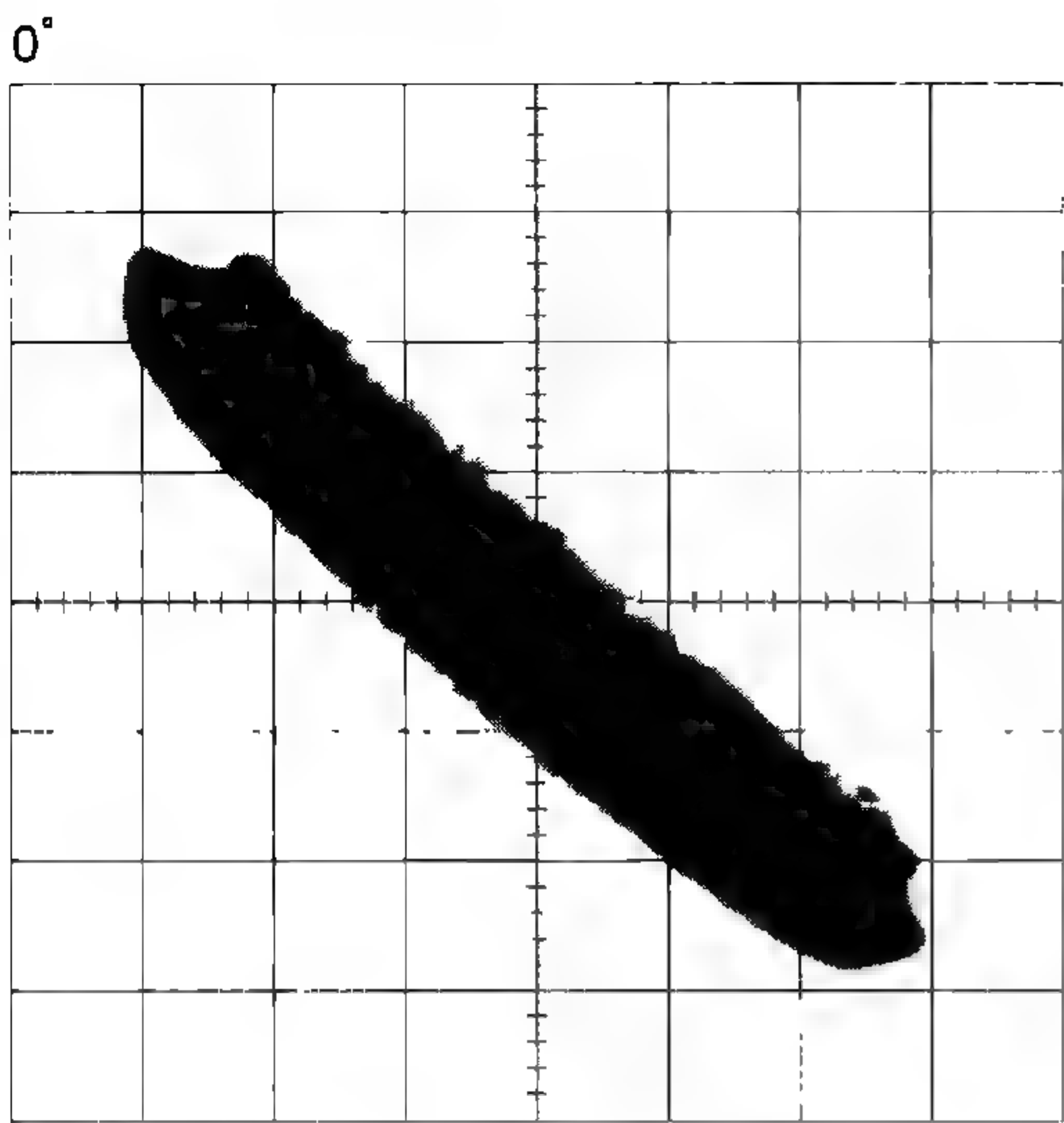
Reloading the disc changes the clamp position and may decrease the "wobble".



DEH-435R,434R,433R

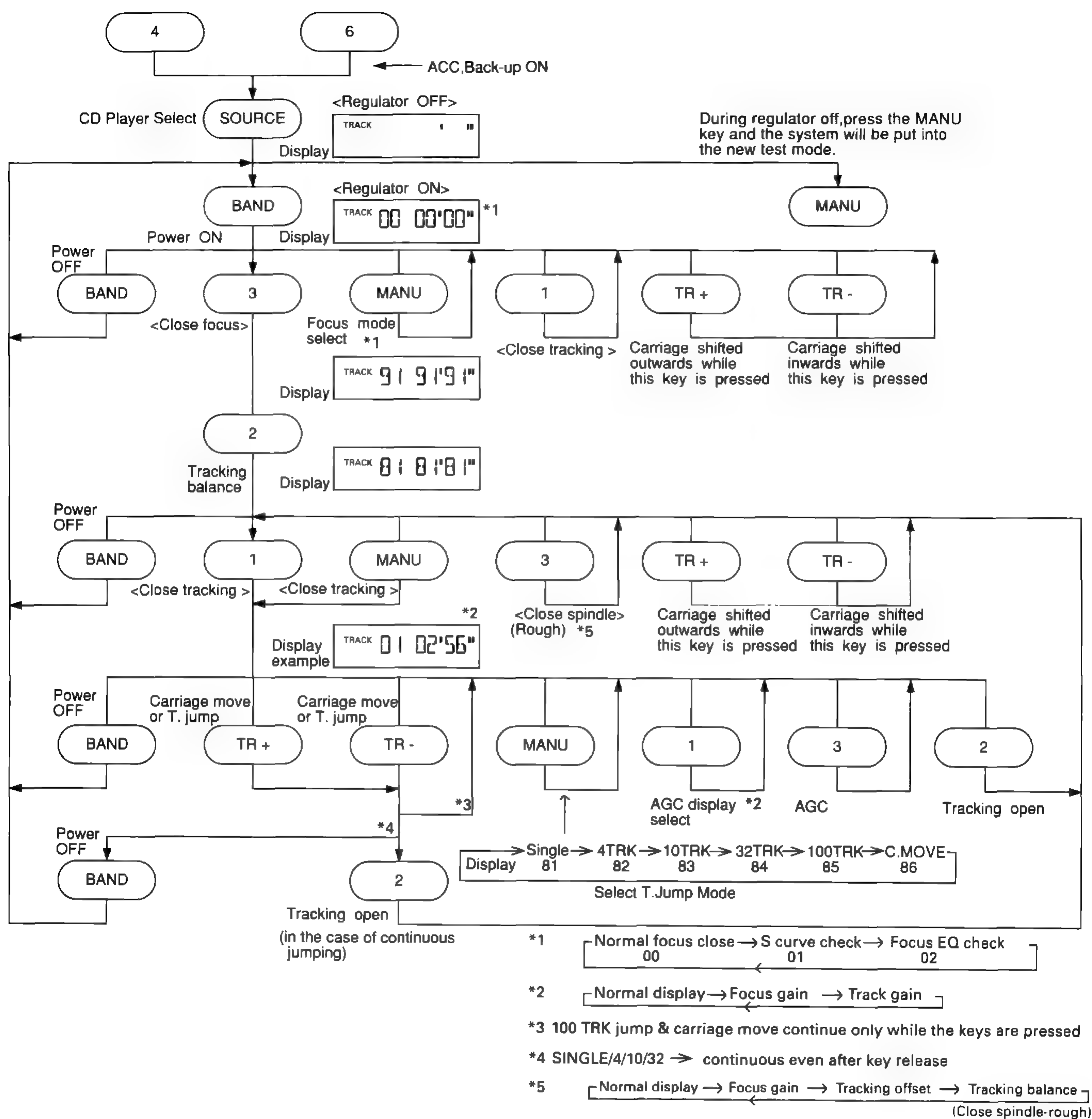
Grating waveform

Ech → Xch 20mV/div, AC  
Fch → Ych 20mV/div, AC



## 6.4 TEST MODE

### ● Flow Chart



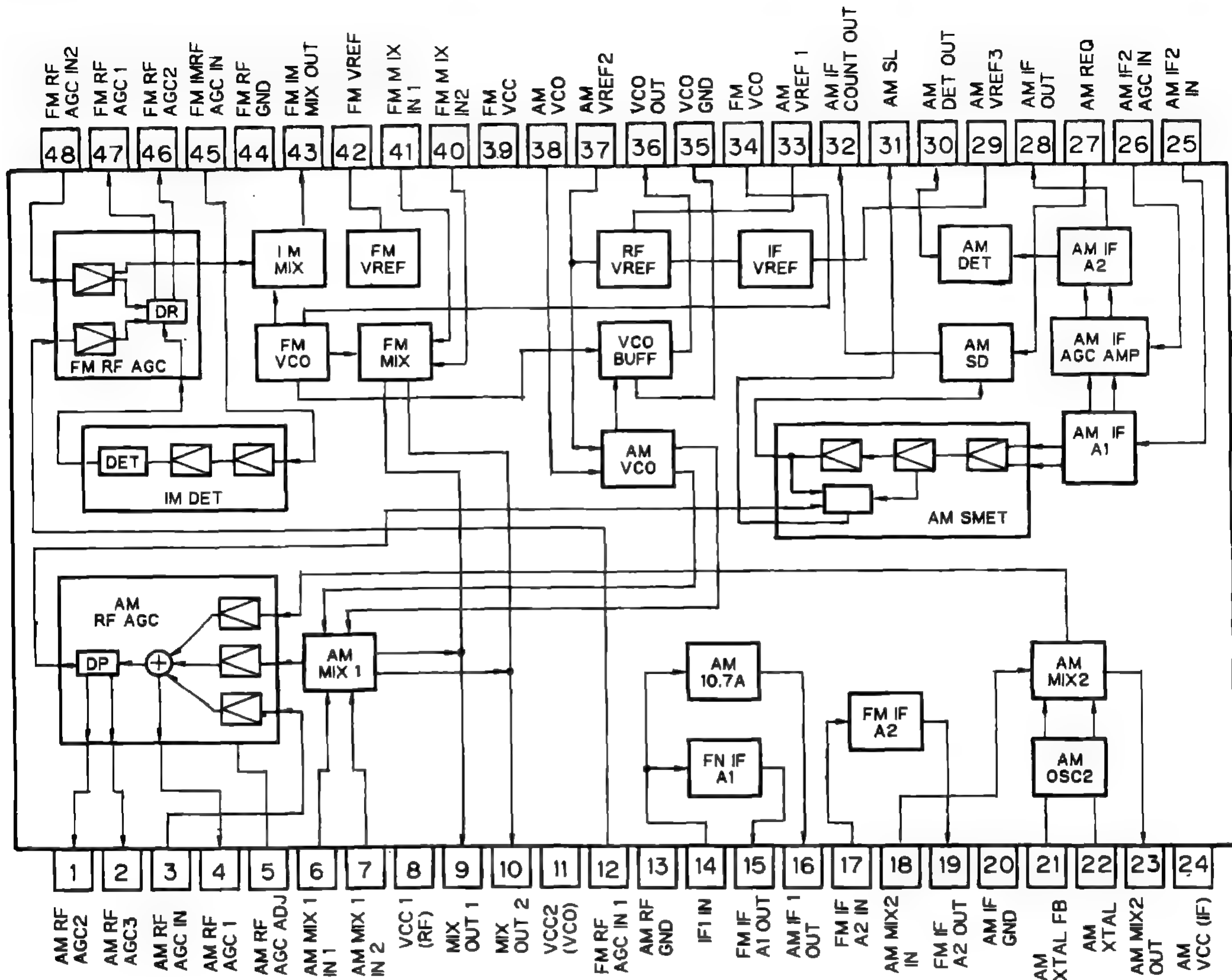


## 7. GENERAL INFORMATION

### 7.1 PARTS

#### 7.1.1 IC

PA4023B

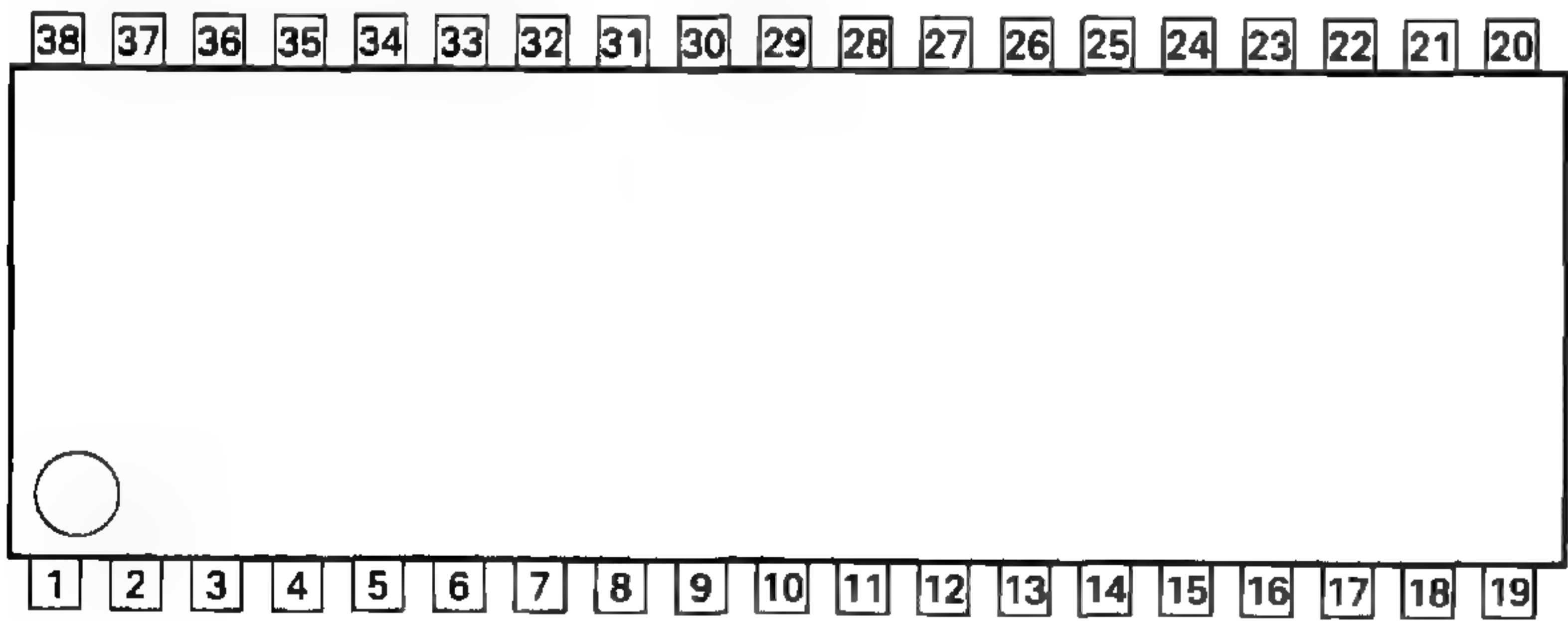




● Pin Functions (UPC2572GS)

Pin No.	Pin Name	I/O	Function and Operation
1	EFM-IN	I	EFM comparator input
2	AGC-OUT	O	AGC amplifier output
3	C. AGC		Connects AGC peak detection condenser
4	RF-IN	I	RF signal DC component cut input
5	RF-OUT	O	RF amplifier output
6	RF-	I	RF amplifier inverted input
7	C1, 3T		Connects RF3T component detection condenser
8	C2, 3T		Connects RF3T component detection condenser
9	Vcc		Power supply
10	A	I	A signal input
11	C	I	C signal input
12	B	I	B signal input
13	D	I	D signal input
14	F	I	F signal input
15	E	I	E signal input
16	PD	I	APC amplifier input
17	LD	O	APC amplifier output
18	LDON	I	Laser diode ON/OFF input
19	VREF-OUT	O	Reference voltage output
20	VREF-IN	I	Reference voltage input
21	DET-OUT	O	Vibration detection circuit output
22	DET-IN	I	Vibration detection circuit input
23	TE-OUT2	O	Tracking error amplifier output (fourfold gain)
24	TE-OUT1	O	Tracking error amplifier output (singlefold gain)
25	TE-	I	Tracking error amplifier inverted input
26	GND		GND
27	FE-	I	Focus error amplifier inverted input
28	FE-OUT	O	Focus error amplifier output
29	C.FE	I	Focus error signal DC component cut input
30	3T-OUT	O	RF3T component output
31	MIRR	O	MIRR signal output
32	RFOK	O	RFOK signal output
33	DEFECT	O	DEFECT signal output
34	C. DEF		Connects DEFECT signal detection condenser
35	EFM-OUT	O	EFM comparator output
36	ASY	I	EFM comparator level input
37	TE-BAL	I	Tracking balance control
38	FE-BAL	I	Focus balance control

UPC2572GS





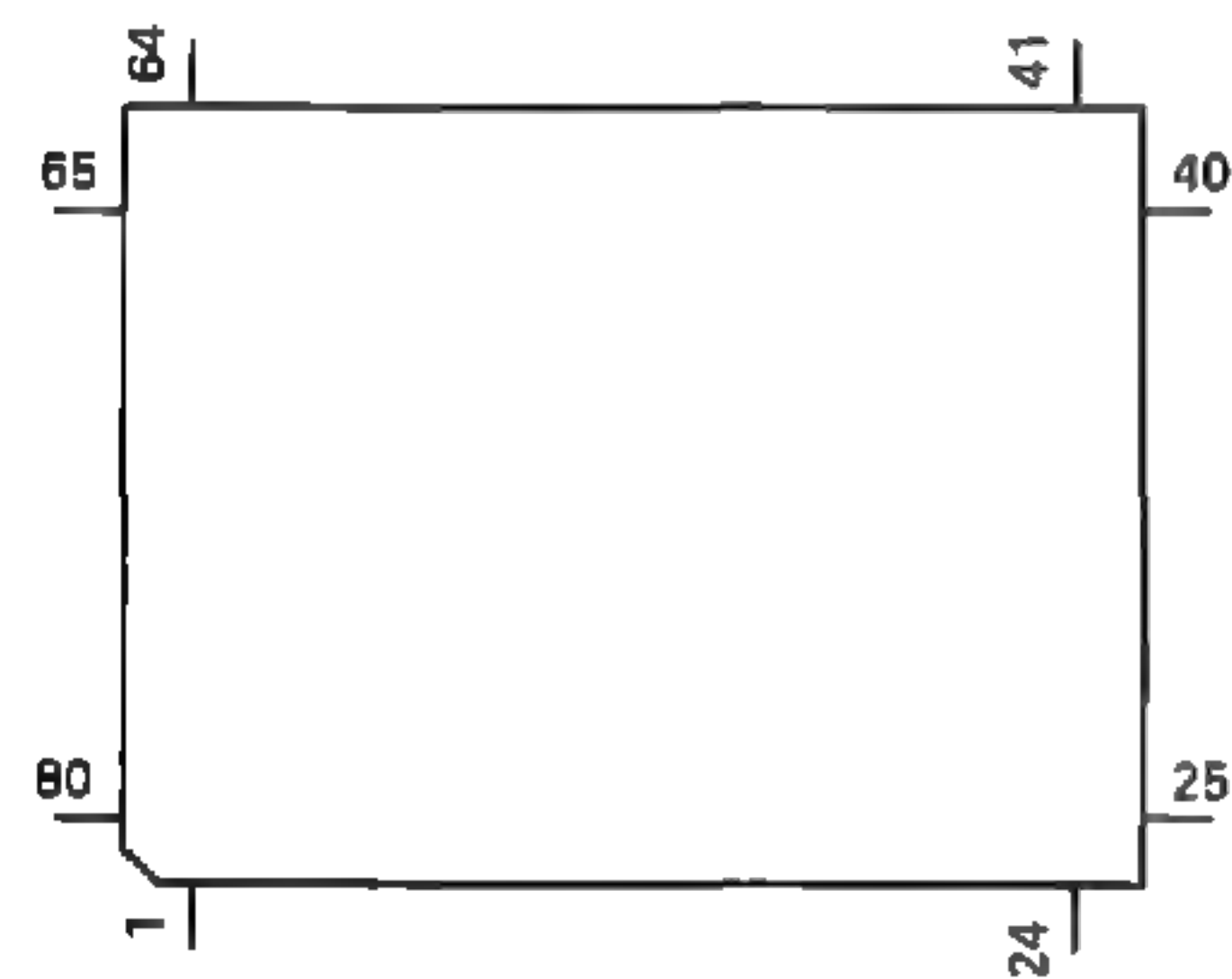
**● Pin Functions (UPD63702GF)**

Pin No.	Pin Name	I/O	Function and Operation
1	D.VDD		Supplies current of positive voltage to the logic circuits
2	RST	I	System reset input pin
3	AO	I	Microcomputer interface AO="L": STB active and set to address register AO="H": STB active and set to parameter
4	STB	I	Signal to latch serial data within the LSI
5	SCK	I	Clock input pin to input and output serial data
6	SO	O	Outputs serial data and status signal
7	SI	I	Serial data input pin
8	D.GND		Logic circuit GND
9	X.GND		Crystal oscillation circuit GND
10	XTAL	I	Crystal oscillator connection pin
11	XTAL	O	Crystal oscillator connection pin
12	X.VDD		Supplies current of positive voltage to the crystal oscillation circuit
13	DA.VDD		Supplies current of positive voltage to the D/A converter
14	R+	O	Right channel analog audio data output pin
15	R-	O	Right channel analog audio data output pin
16,17	DA.GND		D/A converter GND
18	L-	O	Left channel analog audio data output pin
19	L+	O	Left channel analog audio data output pin
20	DA.VDD		Supplies current of positive voltage to the D/A converter
21	D.VDD		Supplies current of positive voltage to logic circuit
22	FLAG	O	Flag output pin to indicate that audio data currently being output consists of noncorrectable data
23	WDCK	O	Pin to output double the frequency of LRCK
24	C16M	O	Pin to output the clock
25	EMPH	O	Output pin for the pre-emphasis data in the sub-Q code
26	DIN	I	Input pin for serial audio data
27	DOUT	O	Output pin for the serial audio data
28	SCKO	O	Output pin for the clock for the serial audio data
29	LRCK	O	Signals to distinguish the right and left channels of the audio data output from DOUT. Frequency is 44.1kHz at 50% duty at normal regeneration
30	TX	O	Output pin for the digital audio interface data
31	CTLV	I	Oscillation control pin for high-frequency clock generation VCO used for the digital PLL upon regeneration at fast speed of 2- or 4-fold
32	POUT	O	Output point for phase comparison
33	D.GND		GND for the logic circuit
34	VCO	I	Input pin for the inverter
35	VCO	O	Output pin for the inverter
36	D.VDD		Supplies current of positive voltage to the logic circuit
37	PLCK	O	Pin for monitoring the bit clock
38	LOCK	O	Indicates "H" when the synchronized pattern detection signal matches the frame counter output at the EFM recovery modulation, and "L" when they don't match
39	WFCK	O	Minute-cycle signal for the bit clock, the signal indicates the cycle of 1 frame (approx. 7.35kHz)
40	RFCK	O	Minute-cycle signal for the clock, the signal indicates cycle of 1 frame (approx. 7.35kHz)
41	D.GND		GND for the logic circuit
42,43	TEST0,1	I	Test pins
44,45	TM2, TM4	I	Pins for controlling regeneration at fast speed of 2- or 4-fold
46-49	T4-T7	I	Test pins
50,51	C1D1, C1D2	O	Output pin for indicating the C1 error correction results
52-54	C2D1-C2D3	O	Output pin for indicating the C2 error correction results
55	D.VDD		Supplies current of positive voltage to the logic circuit
56	SFSY	O	Outputs 1 word of the subcode. Generally, 1 cycle is approx 136 micro seconds
57	SBSY	O	The signal indicates the beginning of the subcode block. The SFSY signal is output at high level every 98 times
58	SBSO	O	Output pin for the subcode data



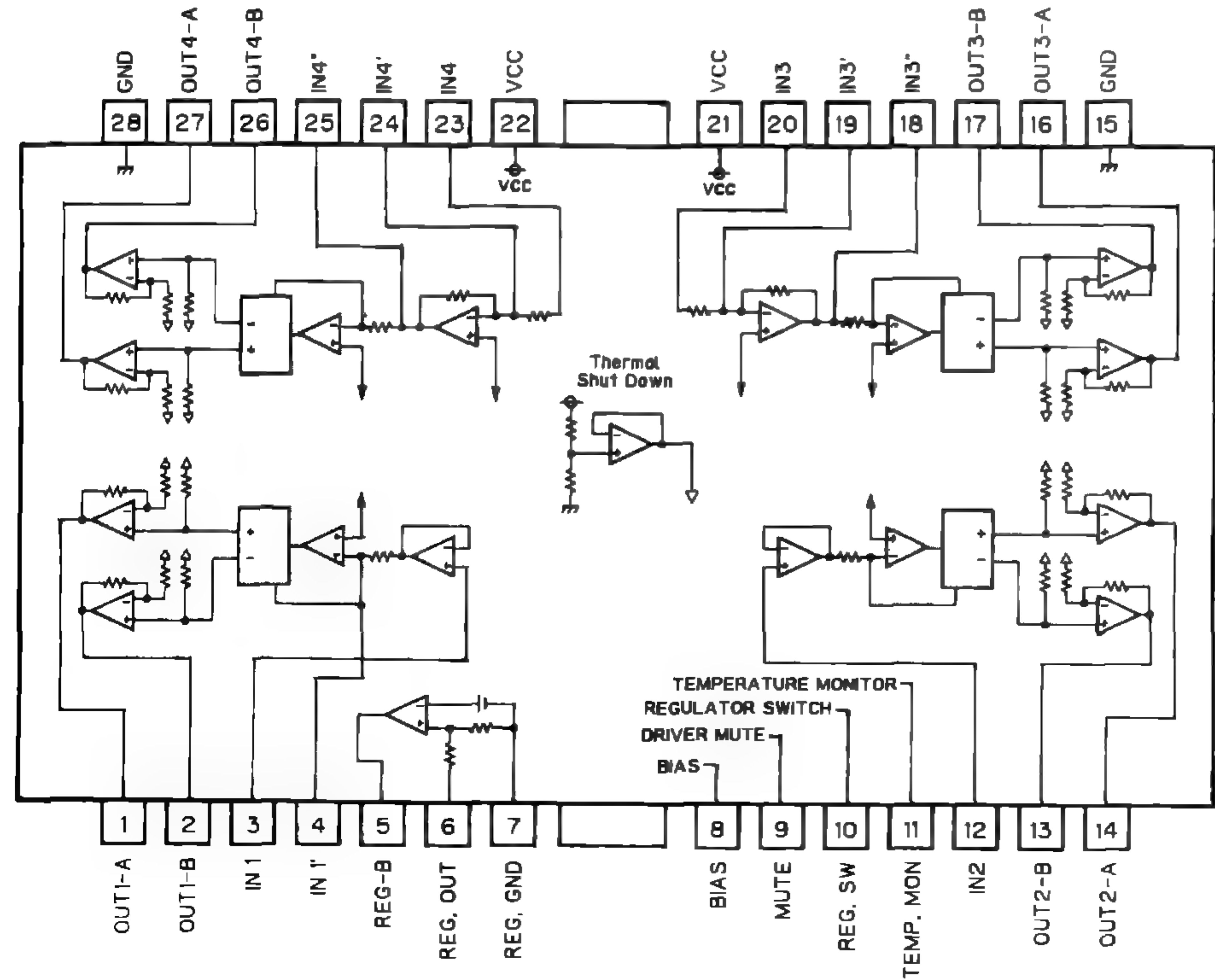
Pin No.	Pin Name	I/O	Function and Operation
59	SBCK	I	Input pin for the clock signal for read-out of the subcode data
60	A.GND		GND for the analog circuit
61	MD	O	Output pin for the spindle drive
62	SD	O	Output pin for the sled drive
63	TD	O	Output pin for the tracking drive
64	FD	O	Output pin for the focus drive
65	FBAL	O	Output pin for the focus balance control
66	TBAL	O	Output pin for the tracking balance control
67	A.VDD		Supplies current of positive voltage to the analog circuit
68	TBC	I	Switches coefficient banks for the tracking filter
69	EFM	I	Input pin for the EFM signal
70	HOLD	I	Input pin for the hold control signal
71	RFOK	I	Input pin for the RFOK signal
72	MIRR	I	Input pin for the MIRR signal
73	A.GND		GND for the analog circuit
74	HOME	I	Home position detector input
75	VR1	I	The signal input through these pins is digitized to 8-bit by the A/D converter, which by operation of the assigned register, can be read into the microcomputer
76	FE	I	Inputs a focus-error signal from the RF amplifier
77	TE	I	Inputs a tracking-error signal from the RF amplifier
78	TEC	I	Input pin for the tracking comparator
79	REFOUT	O	Output point for midpoint potential for the A/D converter for the LSI portion
80	A.VDD		Supplies current of accurate voltage to the analog circuit

\*UPD63702GF



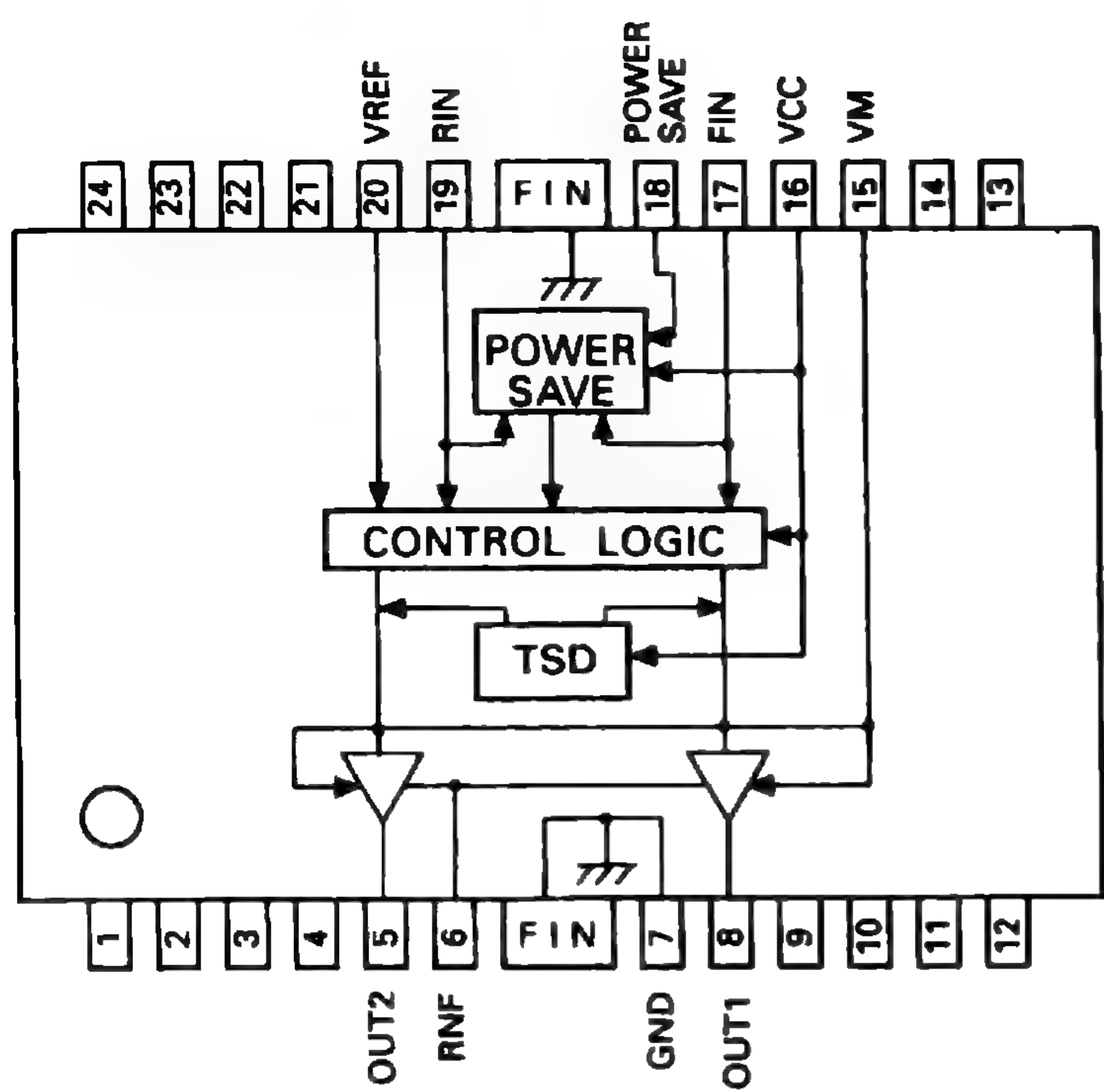
IC's marked by\* are MOS type.  
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

XLA6997FP

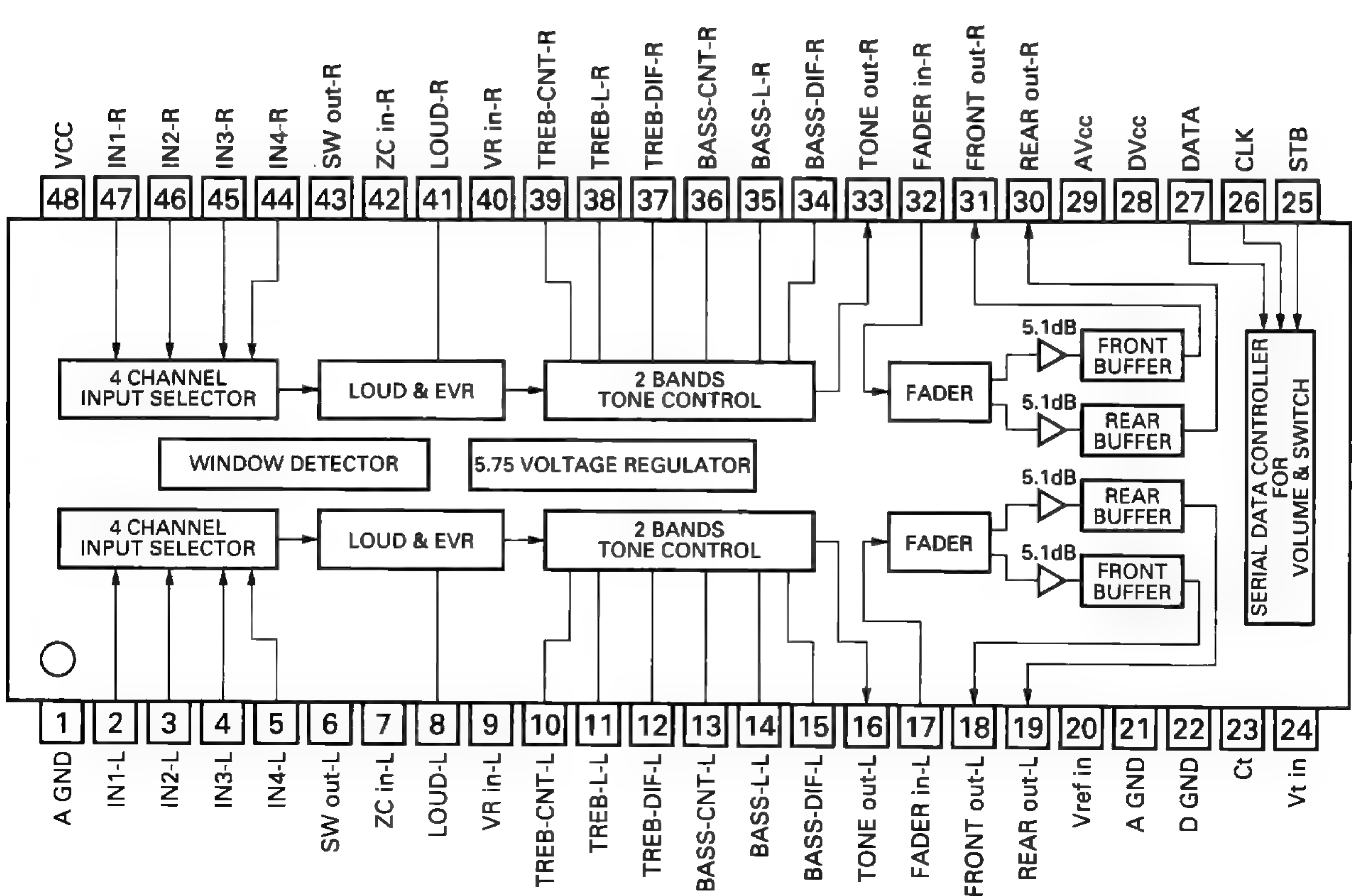




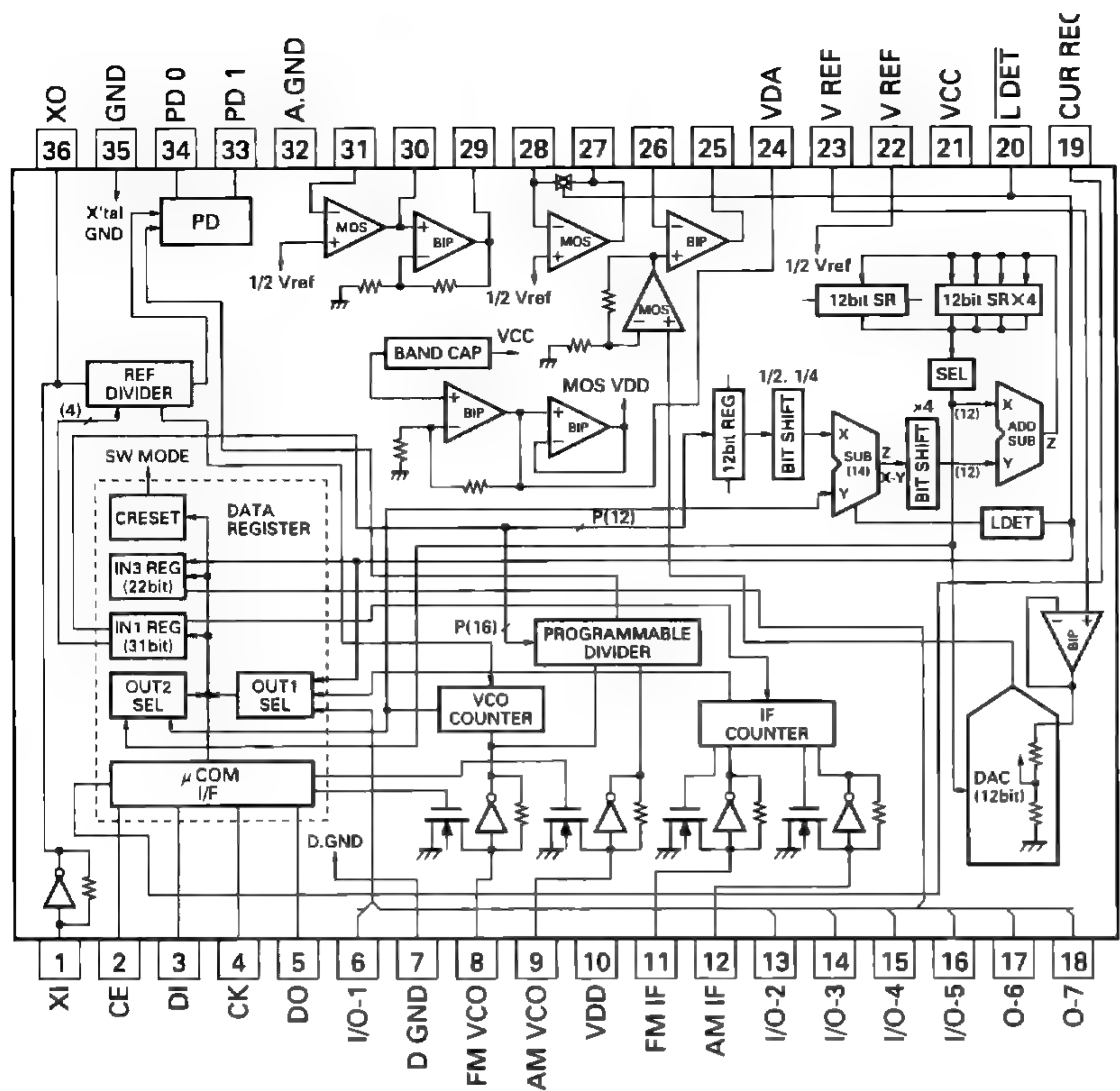
XLA6285FP



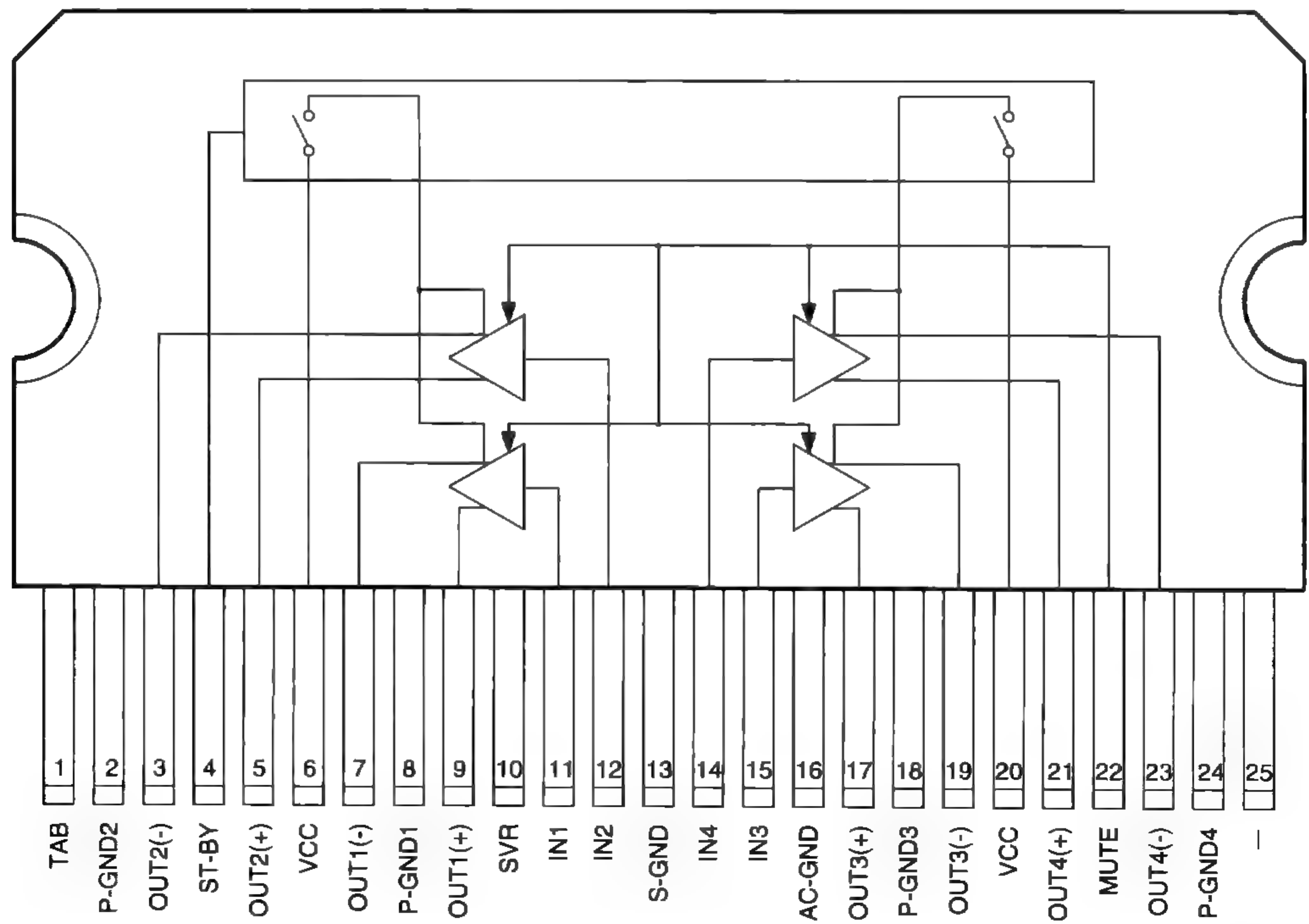
\*SN761027DL



PM2004B

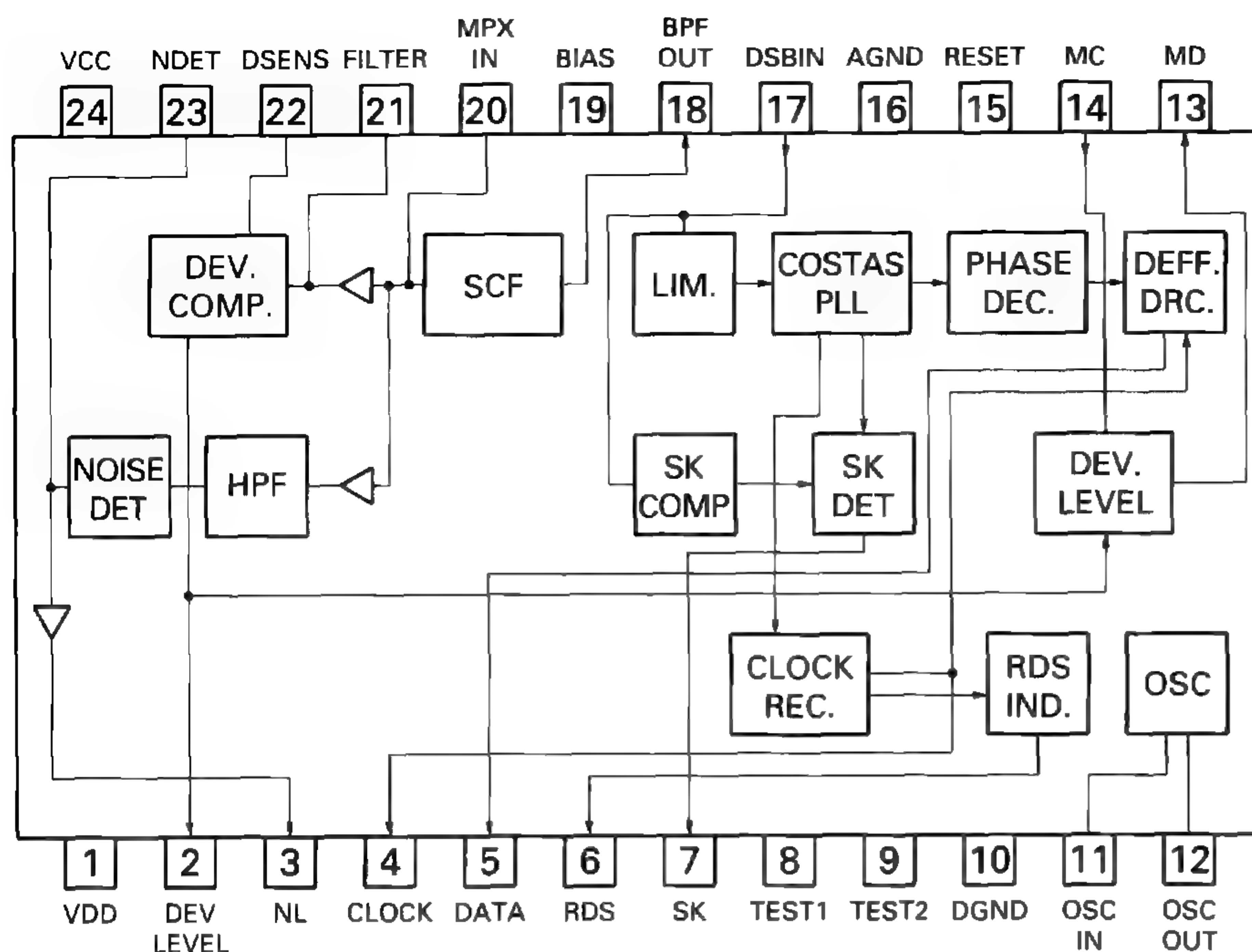


TDA7384A





\*PMW001B



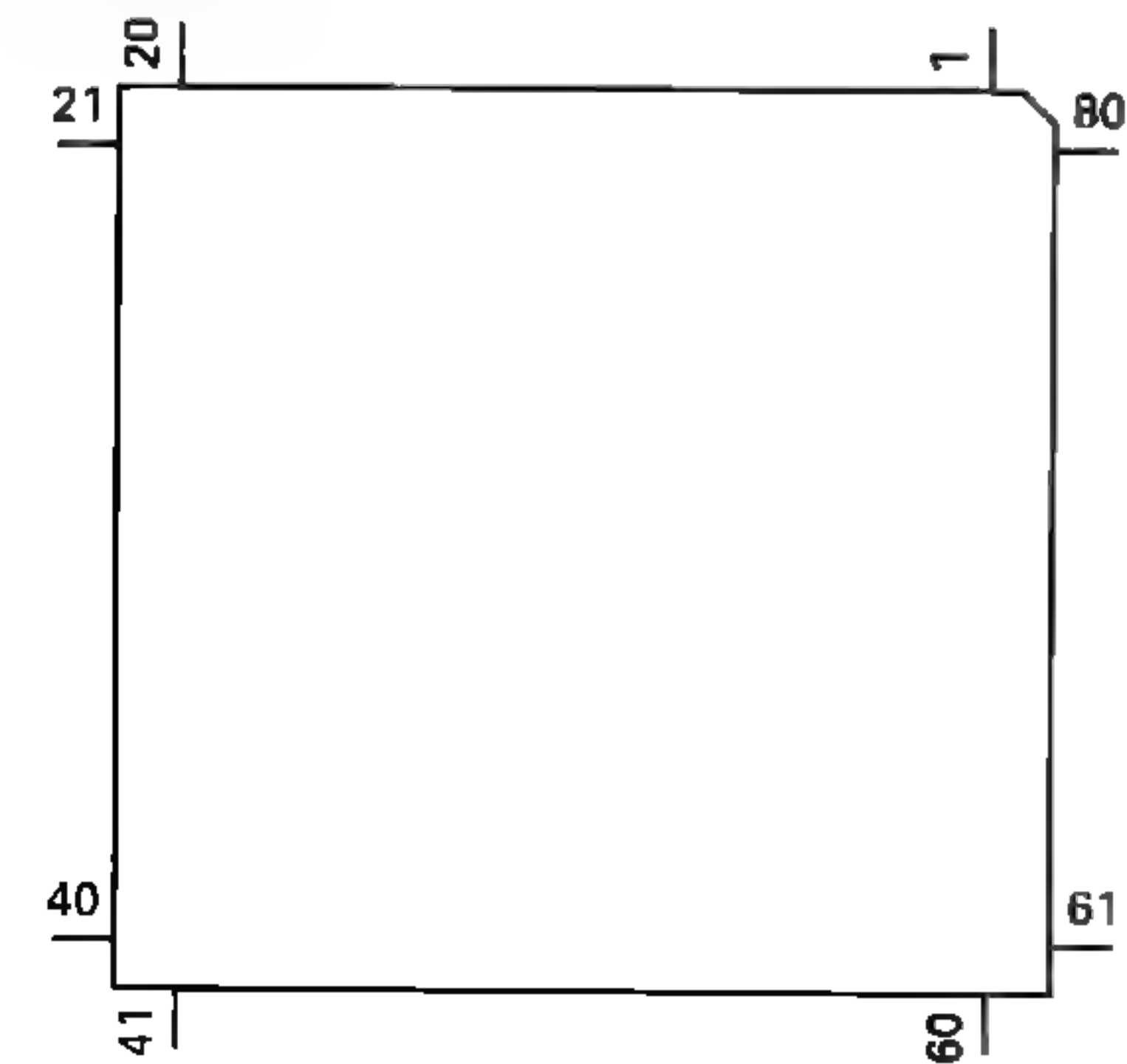
### ● Pin Functions (PD4639D)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	MODEL1	I		Model select input
2	SLIN	I		RDS signal level input
3	NL	I		RDS noise level input
4	AVSS			GND
5	ST	I		FM stereo input
6	SD	I		SD input
7	AVREF1			A/D converter reference voltage
8	KYDT	I		Key data input
9	DPDT	O	C	Display data output
10	MDSSENS	I		Modulation detect input
11	PDI	I		Data input from PLL IC
12	PDO	O	C	Data output for PLL IC
13	PCK	O	C	Serial clock output for PLL IC
14	PCE	O	C	Chip enable output for PLL IC
15	CURRO	O	C	Tuner voltage FIX output
16	XSI	I		Data input from CD mechanism module LSI
17	XSO	O	C	Data output for CD mechanism module LSI
18	XSCK	O	C	Clock output for CD mechanism module LSI
19	DRST	O	C	RDS decoder reset output
20	AM	O	C	AM power control output
21	FM	O	C	FM power control output
22	VDCONT	O	C	VD control output
23	CONT	O	C	Servo driver power supply control
24	XAO	O	C	Command/Data output for CD mechanism module LSI
25	XRST	O	C	Reset output for CD mechanism module LSI
26	XSTB	O	C	Strobe output for CD mechanism module LSI
27	CLAMP	I		Disc clamp sense input
28	MIRR	I		Mirror detector input
29	FOK	I		Focus OK signal input
30	LOCK	I		Spindle lock detector input
31	CDLOAD	O	C	Load motor loading control output
32	NC			Not used
33	VSS			GND



Pin No.	Pin Name	I/O	Format	Function and Operation
34	CDEJET	O	C	Load motor eject control output
35	CD5VON	O	C	CD +5V power supply control output
36	DLED	O	N	Alarm LED output
37,38	MODEL2,3	I		Model select input
39	NC			Not used
40	MUTCNT	I		Not used
41	SWVDD	O	C	Grille power supply control output
42	SYSPW	O	C	System power supply control output
43	ILMPW	O	C	Illumination power supply control output
44	MUTE	O	C	System mute output
45	PEE	O	C	Beep tone output
46	DOORH	O	C	Door system select output
47	DRSENS	I		Door open/close sense input
48	CORR	O	C	Error output
49	VST	O	C	Strobe pulse output for electronic volume
50	VCK	O	C	Clock output for electronic volume
51	VDT	O	C	Data output for electronic volume
52	TMUTE	O	C	Tuner mute output
53	RECIVE	O	C	During RDS data reception output
54	ERROR	O	C	Disapprove of error correction output
55	DRELAY	O	C	External relay output
56	NC			Not used
57	LPFSW	O	C	Output for FIE
58	RDSLK	I		RDS LK signal input
59	RDT	I		RDS detected data input
60	RESET	I		Reset input
61	LDET	I		PLL lock sense input
62	RCK	I		RDS demodulation clock input
63	ASENS	I		ACC power sense input
64	BSENS	I		Back up power sense input
65	DSENS	I		Grille detach sense
66	CLKIN	I		Clock input
67	L/S	O	C	RDS fuzzy control output
68	VDD			Power supply
69	X2			Crystal oscillator connection pin
70	X1			Crystal oscillator connection pin
71	IC			Connect to GND
72	XT2			Not used
73	TESTIN	I		Test program mode input
74	AVDD			Positive power supply terminal for analog circuit
75	AVREF0			A/D converter reference voltage
76	SL	I		SD level input from tuner
77	TEMP	I		Temperature detect input
78	VDSENS	I		VD power supply short detection input
79	DSCSNC	I		Disc sense input
80	EJTSNC	I		Disc eject position sense input

\*PD4639D



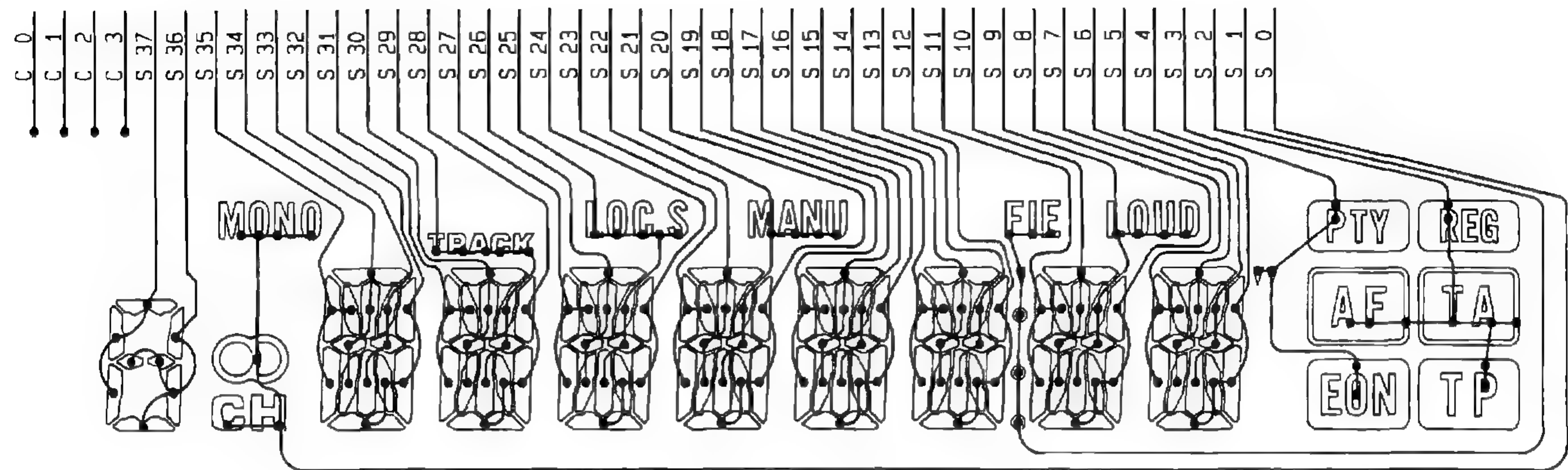
Format	Meaning
C	C MOS
N	N channel open drain



7.1.2 DISPLAY

● CAW1328

COMMON



SEGMENT

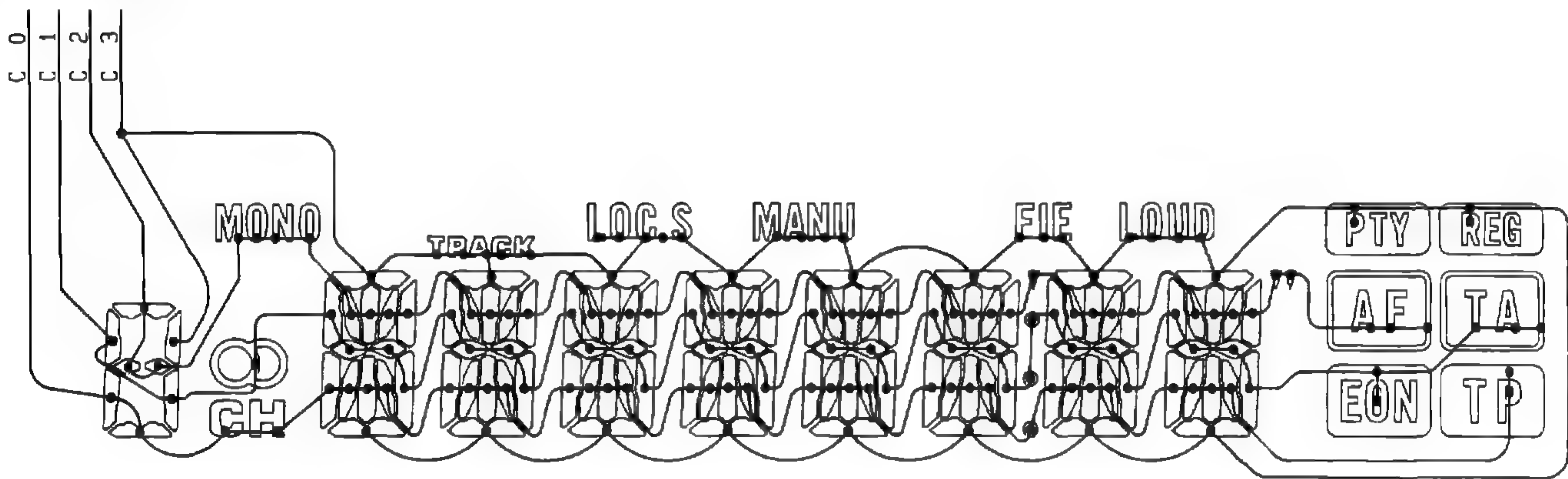


Fig. 26

## 7.2 DIAGNOSIS

### 7.2.1 DISASSEMBLY

#### ● Removing the Case(Not shown)

- 1.Remove the two screws.
- 2.Insert and turn a flat screwdriver to remove the case.

#### ● Removing the Detach Grille Assy(Fig.27)

- 1.Press the detach button, and then pull detach grille assy.

#### ● Removing the Panel Assy(Fig.27)

- 1.Disconnect the two stoppers indicated by arrows, and then remove the panel assy.

#### ● Removing the CD Mechanism Module(Fig.27)

- 1.Remove the four screws.
- 2.Disconnect the connector.
- 3.Remove the CD mechanism module.

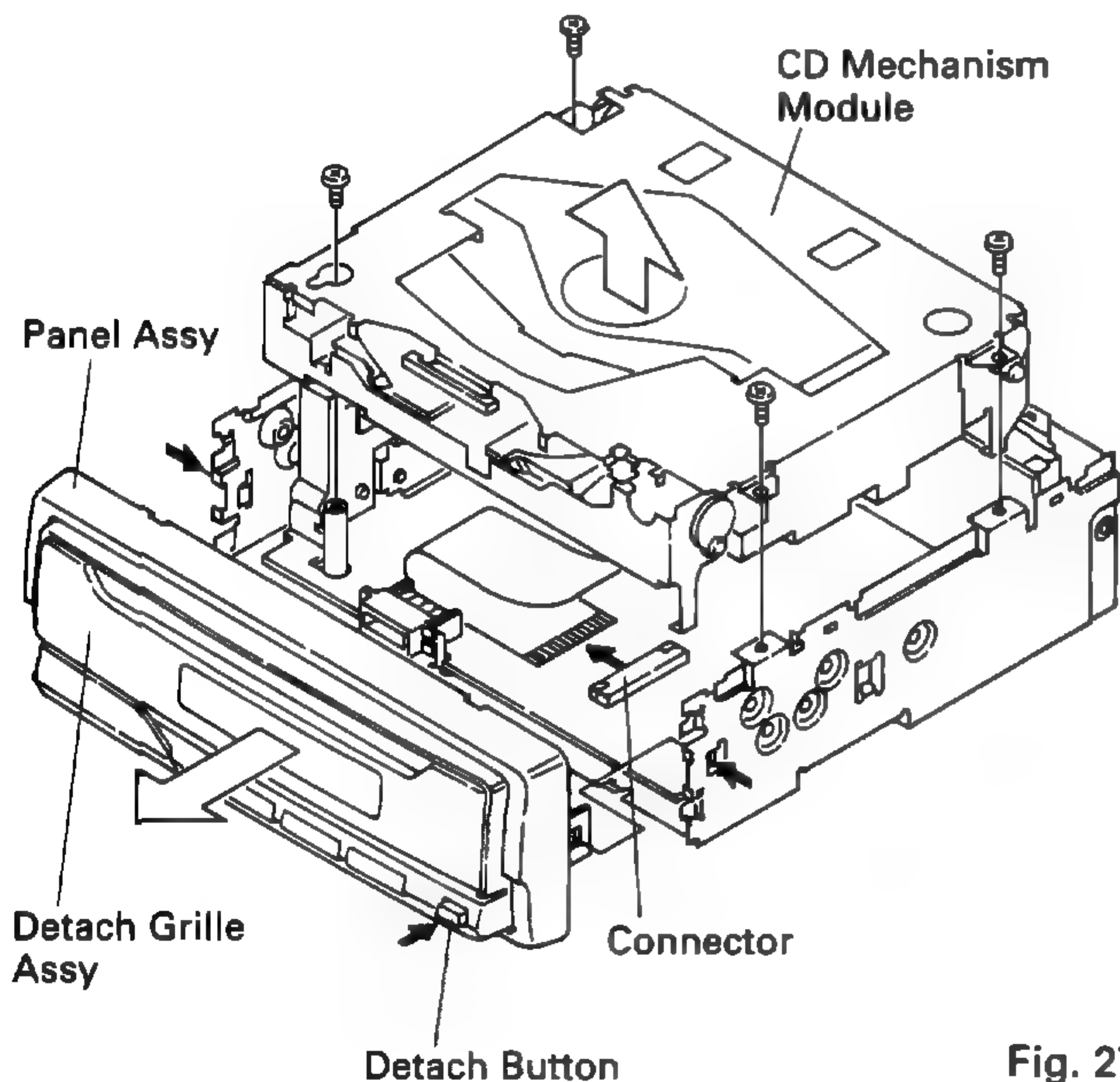


Fig. 27

#### ● Removing the Chassis Unit(Fig.28)

- 1.Remove the screw A, screw B, screw C and two screws D.
- 2.Stretch the five claws, and then remove the chassis unit.

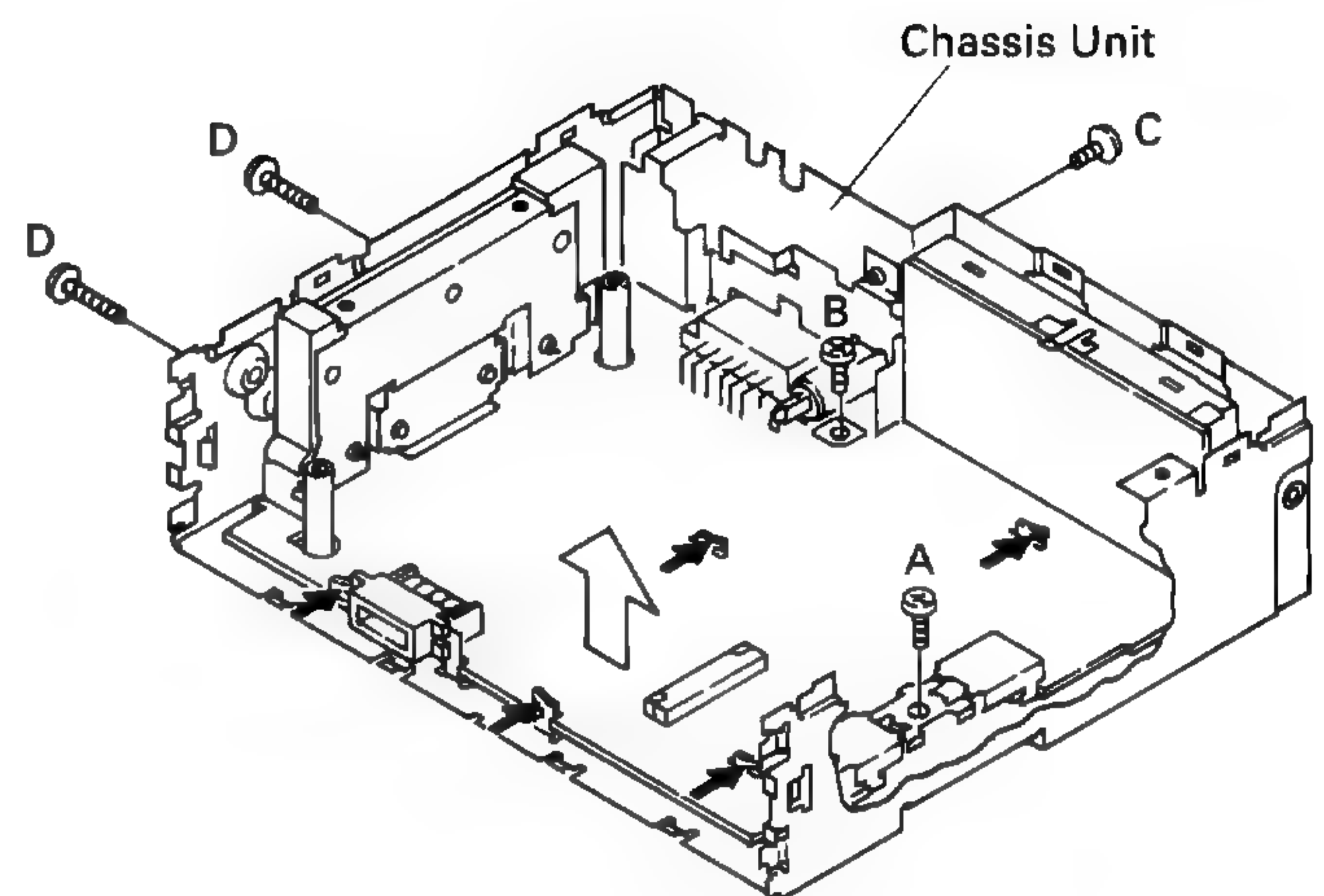


Fig. 28



7.2.2 TEST MODE

● Error Number Indication

If the CD should fail to operate or if an error has taken place during operation the player will enter into the error mode, and the cause of the error will be numerically indicated.

This is aimed at assisting in analysis or repair.

(1) Basic Means of Display

- With ERROR indicated in "MODE" on IP-BUS Display data, an error code is transmitted by the use of MIN and SEC.  
The MIN and SEC data will be identical.
- Examples of Display                    ERROR-XX

(2) Error Codes

Error Code	Classification	Description	Cause/Detail
10	ELECTRIC	Carriage home failure	Carriage doesn't move to or from the innermost position →Home switch failed and/or carriage immobile
11	ELECTRIC	Focus failure	Focus failed →Defects, disc upside-down, severe vibration
12	ELECTRIC	SETUP failure Subcode failure	Spindle failed to lock or subcode unreadable →Spindle defective, defect, severe vibration
14	ELECTRIC	Mirror failure	Unrecorded CD-R The disc is upside-down, defects, vibration
17	ELECTRIC	Set up failure	AGC protect failed →Defects, disc upside-down, severe vibration
19	ELECTRIC	Set up failure	Tracking error waveform is too unbalanced (>50%) or level is too small →The P.U.unit or tracking error circuitry is N.G.
30	ELECTRIC	Search time out	Failed to reach target address →Carriage/tracking defective and/or defects
A0	SYSTEM	Power failure	Power overvoltage or short circuit detected →Switching transistor defective and/or power abnormal

"defects" means scratches, dirt etc an the surface of the disc.

● New Test Mode(aging operation and setup analysis)

The single CD player plays in normal mode. After being set up, it will display FOK (focus), LOCK (spindle), subcode, sound skip, protection against a mechanical error or the like, occurrence of an error, cause and time of an expiry, if any, (and disc number).

During the setup, the CD software operation status (internal RAM and C-point)is displayed.

(1) How to enter NEW TEST Mode

See the test mode flow chart Page 61.

(2) Relations of keys between TEST and NEW TEST Modes

Keys	Test Mode		New Test Mode	
	Regulator OFF	Regulator ON	PLAY in progress	Error Occurred, Protection Activated
BAND	Regulator ON	Regulator OFF	—	Time of occurrence / cause of error select
TR+	—	FWD-KICK	TRACK+ / FF	—
TR-	—	REV-KICK	TRACK- / REV	—
1	—	TRACKING CLOSE	SCAN	—
2	—	TRACKING OPEN	REPEAT	—
3	—	FOCUS CLOSE	RANDOM	—
MANU	To New Test Mode Select	FOCUS MODE	AUTO/MANU	—

Operations, such as EJECT, CD ON/OFF, etc. are performed normally.

(3) Error Cause (Error Number) Code

Error Code	Classification	Mode	Description	Cause	Detail
40	ELECTRIC	PLAY	FOK=L 100ms	Put out of focus	Scratch, Stain, Vibration, Servo defect, etc...
41	ELECTRIC	PLAY	LOCK=L 100ms	Spindle unlock	
42	ELECTRIC	PLAY	Subcode unacceptable 500ms	Failed to read subcode	
43	ELECTRIC	PLAY	Sound skipped	Last address memory operated	

(4) Indicating an Operation Status During Setup

Status No.	Description	Protection operation
01	Carriage home mode started	None
02	Carriage moving inwards	10-second time out, Home switch failed
03	Carriage moving outwards	10-second time out, Home switch failed
05	Carriage moving outwards	None
11	Setup started	None
12	Spindle turn/Focus search started	None
13	Waiting for focus closure (XSI=L)	Failure to close focus
10,14	Waiting for focus closure (FOK=H)	Failure to close focus
15, 16, 17	Focus closed, Tracking open	Focus disrupted
18	During focus AGC Subcode waiting	Focus disrupted
19	During tracking AGC	Disrupted focus
20	Waiting for MIRR, LOCK or subcode read Carriage closed, SPINDLE=ADAPTIVE	Focus disrupted, MIRR NG, Failure to lock, Failed to read subcode

(5) Example of Display.

·SET UP in progress

TNo.	Min	Sec
11	11	11

·Operation (PLAY, SEARCH, etc.) in progress perfectly identical with that in the normal mode.

·Protection/Error upon occurrence  
(a) Error number indicated

ERROR-xx
----------

Select the display with the  
BAND key.

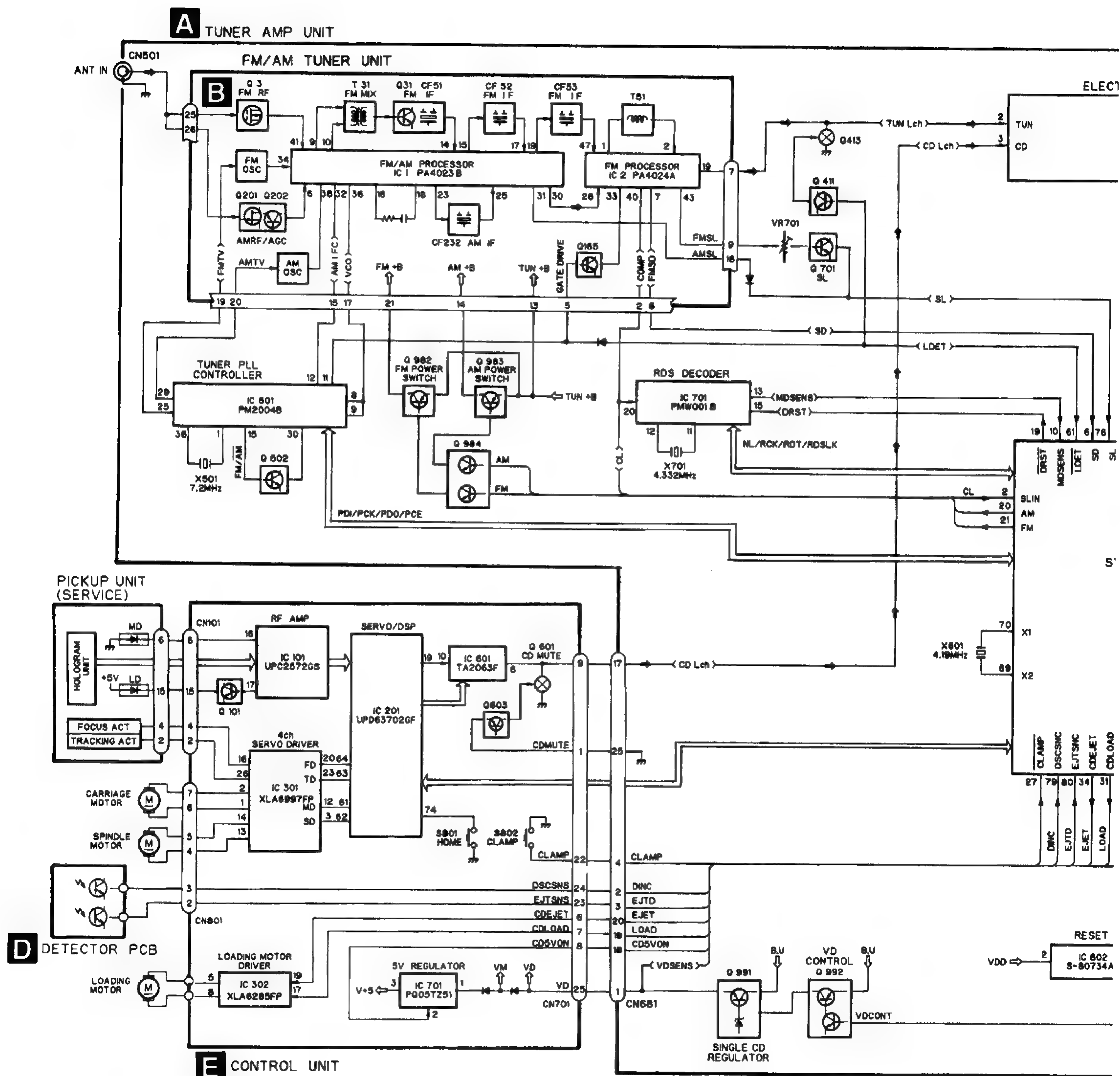
(b) Track number and  
absolute time indicated

TNo.	Min	Sec
10	40	05



# 7.3 BLOCK DIAGRAM

● DEH-435R/X1M/EW



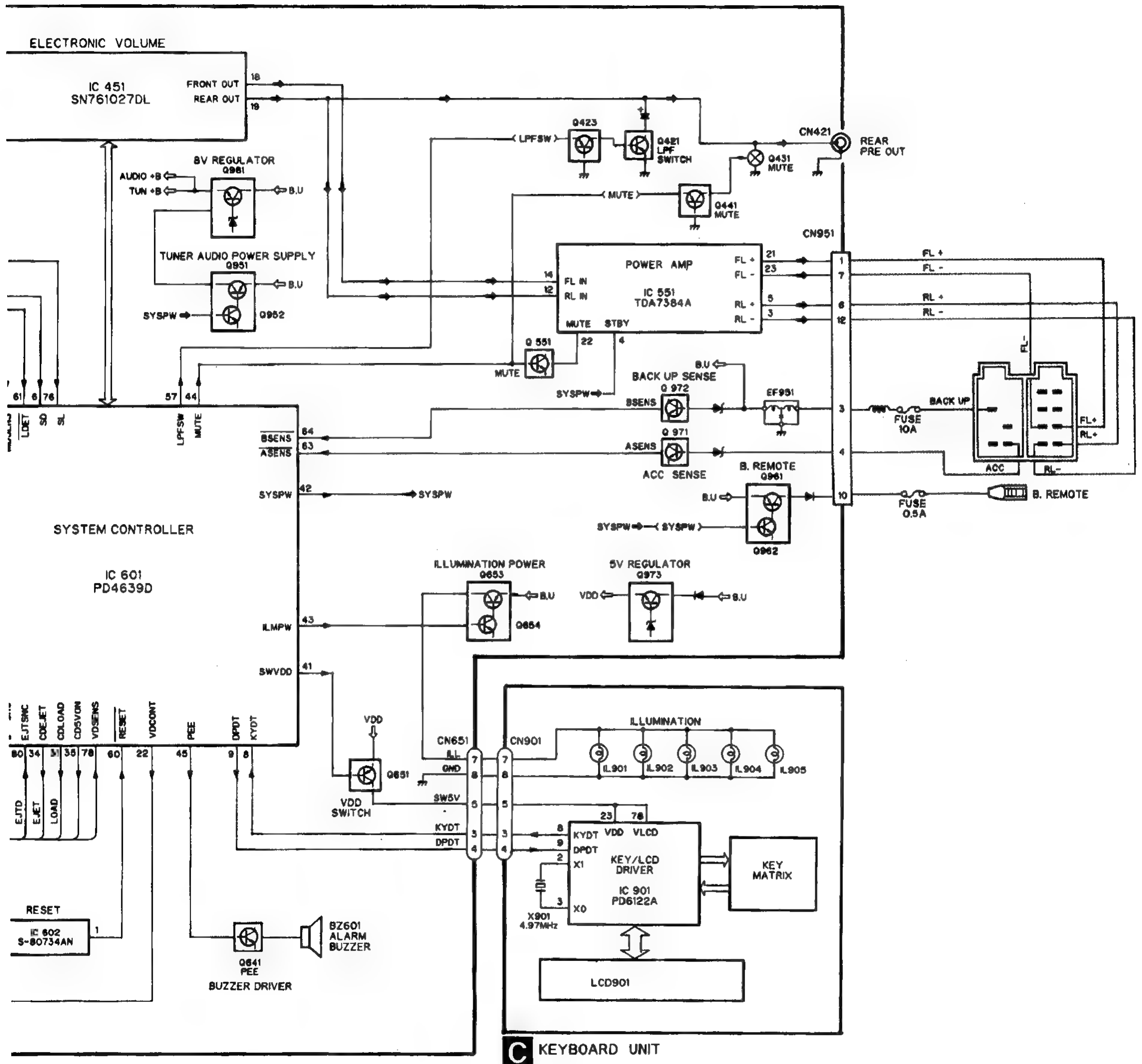


Fig. 29



## 8. OPERATIONS AND SPECIFICATIONS

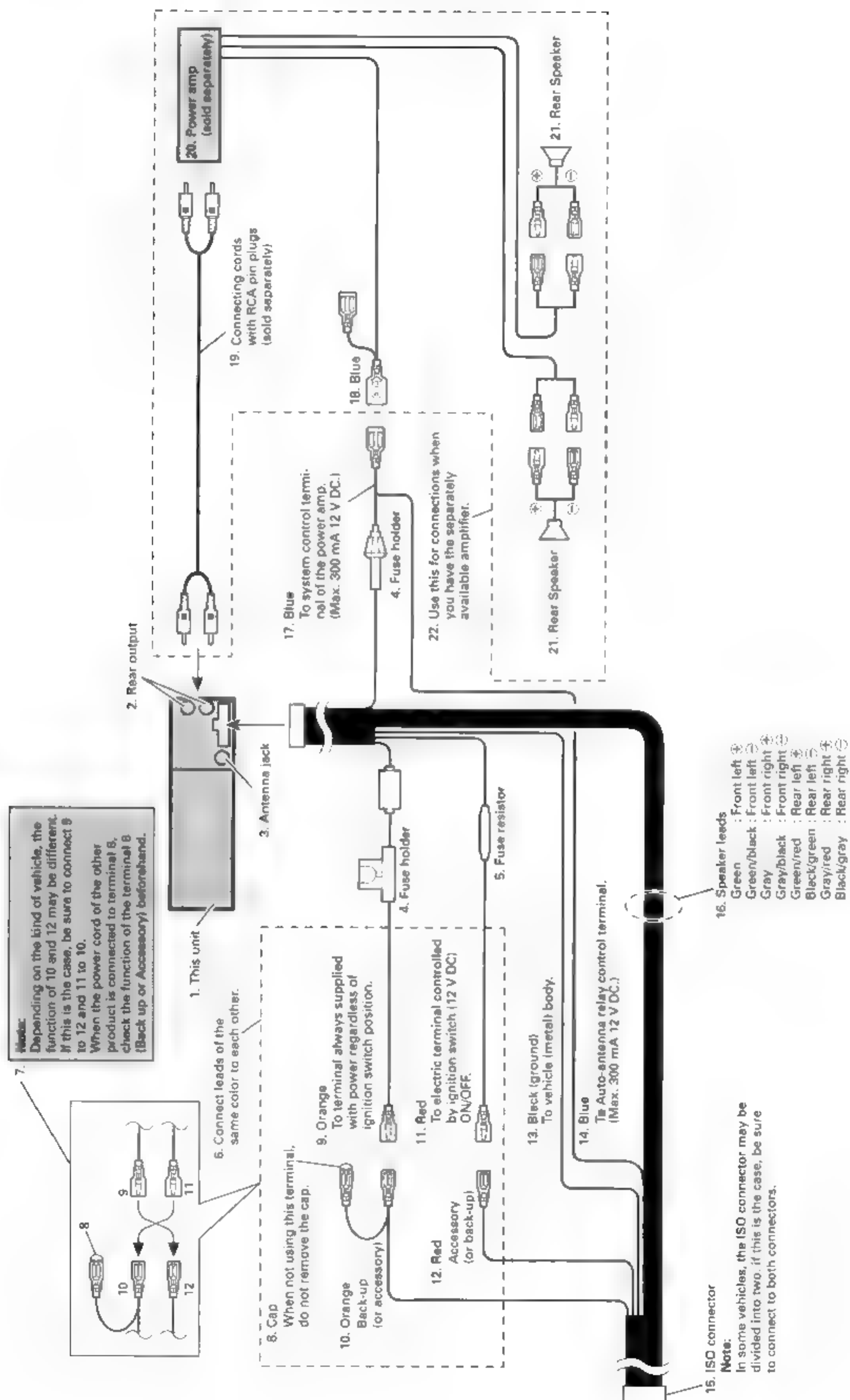


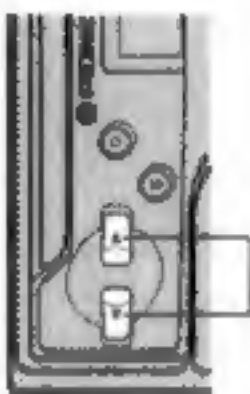
Fig. 30

## Tuner Operation

### Manual and Seek Tuning

Both Manual (step-by-step) and Seek (automatic) tuning are available.

1. Press the (◀) and (▶) buttons simultaneously to switch alternately between the Manual and Seek tuning modes.  
The "MANU" indicator lights when Manual tuning is selected and turns OFF when Seek tuning is selected.



2. Press the (▶) button to tune the receiver to a higher frequency.  
MANU ON (Manual tuning):  
The frequency changes step by step.  
MANU OFF (Seek Tuning):  
The tuner automatically seeks out and receives broadcasting stations.



- Press the (◀) button to tune the receiver to a lower frequency.



## Tuner Operation



### Tuner Source and Band

- Push the **SOURCE** button to select Tuner.  
The program service name or frequency appears on the display.  
(“CD” indicator lights when stereo station selected.)



- Use the **BAND** button to select the desired band.

**DEH-435R, DEH-434R**

(F1, F2, MW/LW)

**DEH-433R**

(F1, F2)



### AF Function Switching

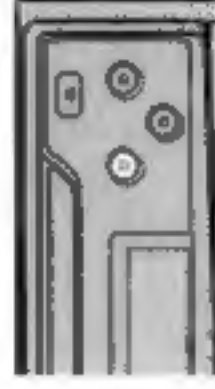
This tuner/CD player's AF function can be switched ON and OFF. AF should be switched OFF for normal tuning operations.

- Press the **AF** button to switch **AF OFF**.

“AF” disappears.

Press the AF button again to switch AF ON.

“AF” appears on the display.

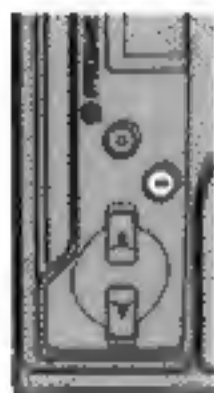




## Audio Adjustment

### 1. Use the **S** button to select the **F. I. E.** mode.

"FIE OFF" appears on the display.  
After adjustment use the **S** button to return to the normal display.



### 2. Press the **(FIE)** button to activate the **F. I. E.** function.

"FIE ON" appears and "FIE" indicator lights on the display.



### To cancel the **F. I. E.** function, press the **(FIE)** button.

The display message returns to "FIE OFF".



### 3. Use the **S** button to select the **Fader/Balance** mode.

This function adjusts the front and rear speaker volumes for better balanced listening.  
(Refer to next section.)



## Balance Adjustment

The function allows you to select a Fader/Balance setting that provides ideal listening conditions in all occupied seats.

### 1. Use the **S** button to select the **Fader/Balance** mode.

"FAD" or "BAL" appears on the display.  
After adjustment use the **S** button to return to the normal display.



The audio modes are selected for adjustment with the **S** button. Volume adjustment is the default mode. When another mode is selected for adjustment, the setting returns to the Volume mode after 8 seconds.



## Volume Adjustment

### Press the **(+)** button or the **(-)** button repeatedly to raise or lower the volume.

The display shows low to high volumes from "VOL 00" to "VOL 30."

Note: Holding down the buttons increases or decreases the volume level more rapidly.

## Change the Setting Mode

Each time the **S** button is pressed, the display message and the functions of the **(+)**, **(-)**, **(FIE)** and **(FAD)** buttons change in the following order:

DEH-435R, DEH-434R

F. I. E. mode — Fader/Balance — Bass/Treble — Loudness.

DEH-433R

Fader/Balance — Bass/Treble — Loudness.



## Using the **F. I. E.** function (DEH-435R, DEH-434R)

The **F. I. E.** (Front Image Enhancer) function is a simple method of enhancing front imaging by cutting mid- and high-range frequency output from the rear speakers, limiting their output to low-range frequencies.

Note: When the **F. I. E.** function is deactivated, the rear speakers output sound in all frequencies, not only bass sounds. Reduce the volume before disengaging **F. I. E.** to prevent a sudden increase in volume.

## Using the Built-in CD Player

- To stop CD playback, press the **SOURCE** button to select tuner or turn the source **OFF**.

When the built-in CD player is selected again, playback begins at approximately the same place (track/playing time).

### Precaution:

- Inserting more than one disc at a time may damage the built-in CD player.
- Discs left partially inserted after ejection may incur damage or fall out.
- If a disc cannot be inserted fully or playback fails, make sure the recorded side is down, push the Eject button and check the disc for damage before reinserting it.
- If a CD is inserted with the recorded side up, it will be ejected automatically after a few moments.
- If the built-in CD player cannot operate properly, an error message (such as **ERROR-(4)**) appears on the display. Refer to "CD Player Troubleshooting".



## Using the Built-in CD Player

The built-in CD player plays one standard 12 cm 8 cm (single) CD at a time. Do not use an adapter when playing 8 cm CD.

### Inserting and Removing Discs

- Insert the disc with the recorded (iridescent) surface down.
- CD playback begins immediately, whether or not the player is ON or the built-in CD source selected. The track number and playing time are displayed.
- Press the **Eject** button to eject any disc loaded in the disc slot.



### Playing the Built-in CD player

- To play a CD that is already loaded, press the **SOURCE** button with a CD loaded to select the built-in CD player.
- The built-in CD player is selected only when a CD is loaded.
- Note: See "Audio Adjustment" on pages 12-15 for volume and tone adjustment.



When problems occur with CD playback, an error message appears on the display. Refer to the table below to identify the problem, then take the suggested corrective action. If the error persists, contact your dealer or your nearest PIONEER Service Station.

Message	Possible cause	Recommended action
ERROR- 11, 12, 14, 17, 30	Dirty disc.	Clean the disc.
ERROR- 11, 12, 17, 30	Scratched disc.	Replace the disc.
ERROR- 14	Unrecorded CD.	Check the disc.
ERROR- 10, 11, 12, 14, 17, 30, A0	Electrical or mechanical problem.	Turn the ignition ON and OFF, or switch to a different source, then back to the CD player.
HEAT	CD player overheating.	Discontinue play until the machine temperature drops.



**Specifications****General**

Power source	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Max. current consumption	10.0 A
Dimensions	
(mounting size)	178 (W) × 50 (H) × 150 (D) mm
(front face)	188 (W) × 58 (H) × 22 (D) mm
Weight	1.5 kg

**Amplifier**

Maximum power output	35 W × 4
Continuous power output	22 W × 4
	(DIN45324, +B=14.4 V)
Load impedance	4 Ω (4 — 8 Ω allowable)
Preout output level/output impedance	500 mV/ 1 kΩ
Tone controls	
(Bass)	±12 dB (100 Hz)
(Treble)	±12 dB (10 kHz)
Loudness contour	+10 dB (100 Hz), +7 dB (10 kHz)
	(volume: -30 dB)

**CD player**

System	Compact disc audio system
Usable discs	Compact disc
Signal format	Sampling frequency: 44.1 kHz
	Number of quantization bits: 16; linear
Frequency characteristics	5 — 20,000 Hz (±1 dB)
Signal-to-noise ratio	94 dB (1 kHz)(IEC-A network)
Dynamic range	90 dB (1 kHz)
Number of channels	2 (stereo)

**FM tuner**

Frequency range	87.5 — 108 MHz
Usable sensitivity	11 dBf (1.0 μV/75Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	16 dBf (1.7 μV/75Ω, mono)
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	30 — 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

**DEH-435R, DEH-434R****MW tuner**

Frequency range	531 — 1,602 kHz
Usable sensitivity	18 μV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

**LW tuner**

Frequency range	153 — 281 kHz
Usable sensitivity	30 μV (30 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

**Note:**

Specifications and the design are subject to possible modification without notice due to improvements.